ATLAS

STELLARUM VARIABILIUM.

SERIES SECUNDA,

COMPLECTENS STELLAS VARIABILES INTRA LIMITES DECLINATIONIS

0° ET $+ 25^{\circ}$,

QUARUM LUX MINIMA EST INFRA MAGNITUDINEM 10^{M},

COMPOSITA

A

I. G. HAGEN, S. I.,

DIRECTORE SPECULAE COLLEGII GEORGIOPOLITANI, WASHINGTON, D. C.

ET TYPIS DESCRIPTA SUBSIDIIS

CL. DOMINAE CATHARINAE W. BRUCE.

BEROLINI,

APUD FELICEM L. DAMES,

MDCCCIC.

PRAEFATIO.

Atlas Stellarum Variabilium divisus est in quinque Series, quarum tres priores ad observandas stellas variabiles tenuissimam lucem attingentes adiumento sunt, quarta vero ad illas, quarum lux minima instrumentis mediocribus patet, quinta denique ad reliquas, quae nudis oculis conspicuae manent.

Iam quo facilius intellegatur, qua ratione hic Catalogus sit compositus et stellae descriptae in Chartis, haec videntur esse explicanda.

Primum quidem inscriptiones Chartarum ea omnia continent, quae ad ipsas observationes nocturnas sunt necessaria, et partim desumptae sunt ex III. Catalogo D. Chandler, postquam eum a vero non multum aberrare nostra observatione cognovimus.

Color stellae variabilis ita numeris designatur, ut 0 albus, 10 ruber significetur.

Colori additus est numerus Latinus, qui secundum distributionem P. Secchi spectrum stellae variabilis designat. Qui numeri exscripti sunt ex variis catalogis, quos ediderunt Pickering (H. C. O. vol. XVIII, pp. 244—252), Espin (The Red Stars, by J. Birmingham, p. 109 sqq.), Krueger (Katalog der farbigen Sterne, et Astrophysical Journal, vol. II, p. 149 sqq.).

Quae denique sit lux maxima et minima stellae variabilis, mediis quibusdam numeris indicatur, quos ex iis, qui variis temporibus observati sunt, collegimus.

In inferiore autem margine Chartarum notatum est, si qua stella variabilis eiusve vicinitas in Chartis Eclipticis Parisiensibus, Clintonensibus, Vindobonensibus descripta invenitur.

Veniamus ad ipsas Chartas, quae, ut contemplanti reticulum rubrum sua sponte apparet, in utraque coordinata singulos gradus comprehendunt. Divisae sunt in partes binas, quarum altera interior, figura quadrata, stellas fere omnes continet, quae nostro telescopio (12 digit. sive 30.5 cm.) et scala infra describenda facile determinari possunt, altera vero exterior interiori circumscripta illas tantum, quae in catalogo Bonnensi (BD.) inveniuntur. Ipsa stella variabilis est media et ita designatur duobus circulis, ut exterior lucem maximam, interior indicet minimam. Hic tamen notanda sunt duo: alterum est in interiore quadrato tenuissimas stellas, quarum claritas sit infra lucem minimam variabilis, plerumque esse omissas; alterum est exteriori figurae stellas aliquas, quae in Catalogo BD. desiderantur, esse insertas, ubi periculum ambiguitatis id requirere videretur.

Atque haec de Chartis, iam Catalogum explicemus.

Inscriptiones ex eodem, quem supra commemoravimus, fonte haustae sunt, et ea suppeditant, quae ad computationes faciendas videntur esse necessaria.

Loca autem singularum stellarum variabilium pro anno 1855.0 data sunt, ut additis differentiis $\Delta\alpha$ et $\Delta\delta$ facilius inveniantur loca aliarum stellarum in catalogo BD. descripta, quamvis ipsae differentiae valeant pro anno 1900.0, quae est epocha in Chartis notata.

Columnae Catalogi eae imprimis explicatione indigent, quibus magnitudines collocationesque stellarum indicantur.

Claritas stellarum non ita observata est, ut sua cuique magnitudo immediate attribueretur, sed ita, ut gradus (Stufen), quibus aliqua stella ab alia paulo lucidiore vel tenuiore differret, immediate et sine adiumento photometrico aestimarentur.

Atque hoc modo stellae lucidiores Seriei I^{ae}, II^{ae}, III^{ae} instrumento minore (4.8 digit. sive 12.2 cm) bis intra annos 1892 et 1895 aestimatae sunt, et iterum bis instrumento maiore intra annos 1895 et 1898 simul cum stellis tenuioribus. Itaque lucidarum stellarum gradus innituntur determinationibus quattuor, debiliorum autem duabus. Quae determinationes mensem saltem inter se distabant. Harum igitur observationum fructum principalem et immediatum ea columna ante oculos ponit, quae inscribitur gradus et composita est ex partialibus graduum sequentiis in unam seriem ordinatis.

In proxima columna habes magnitudines delineandis Chartis inservientes, quae ea lege ex gradibus computatae sunt, ut et ipsi gradus a clarioribus stellis usque ad tenuissimas in unaquaque Charta invariabiles supponerentur et magnitudines scalae Bonnensi quam maxime consentirent, saltem intra limites 7^M et 10^M. Hac quidem computandi ratione fit, ut et valores graduum et magnitudines stellarum tenuissimarum aliae sint in aliis Chartis. Quae ratio cur ceteris anteposita esset, alibi explicavimus (vide Astr. Nachr. vol. 145, p. 33 sqq., et Astroph. Journal, vol. VI, p. 441).

Quomodo autem hae magnitudines ex gradibus computatae sint, apparet ex formulis, quae singulis catalogis annexae inveniuntur. Quae formulae quantum fini, quem supra descripsimus, respondeant, ex consensu columnarum, quae inscribuntur Magn. et BD., diiudicandum est.

Proximum est, ut loca stellarum et qua ratione sint determinata et quam prope ad veritatem accedant, exponamus. Quae loca definita sunt ope semicirculi vitrei, cuius linea diametralis Ascensionibus Rectis, lineae transversales Declinationibus observandis inserviebant. Scala haec ita divisa est in decem partes, ut singula intervalla terna aequent minuta, atque constat ex lineis tam crassis, ut caeli luce naturali discerni possint.

Declinationes mensurabantur usque ad decimam unius intervalli partem (seu $0'.3$), idque semel tantum, sine festinatione, dum telescopium horologio impellente motum stellarum sequebatur. Ex quo intellegitur errorem $0'.3$ vel etiam $0'.6$ in singulis declinationibus exspectari posse. Si quando error deprehendatur aequalis vel fere aequalis $3'.0$, ortum habere censendus est in numerandis scalae lineis.

Ascensiones Rectae cum in chronographo ternis observationibus definitae sint, propius ad veritatem accedunt neque in ipsis stellis debilioribus plus quam 1^s a vero aberrare censendae sunt.

Quantum autem scala ad circulum horarium inclinaretur, pro singulis Chartis determinatum est compluribus stellis, quarum positiones notae erant vel ex catalogis diversis iam pridem editis vel ex zonis A. G. C., quarum partes, antequam typis editae sunt, benigne ad nos mittebantur, vel denique ex observationibus instrumento meridiano hic in hunc finem institutis.

Epocha, ad quam hae quantitates $\Delta\alpha$ et $\Delta\delta$ referendae sunt, est annus 1900.0, cum huius secundae seriei observationes coeptae sint exeunte anno 1894. Notandum est autem loca stellarum extra limites Chartarum sita plerumque ex BD. esse desumpta.

Iam postremae columnae notas explicemus. Ibi „Duplices" dicuntur eae stellae, quarum partes componentes separatim observari vel etiam distingui facile non poterant. Additi etiam sunt ex variis catalogis stellarum duplicium numeri quidam, qui explicatione non indigent. Designatae autem sunt stellae duplices hac potissimum ratione, ne quis iis in luce stellae variabilis metienda uteretur.

Alterum genus notarum est nominum, ut Sch. et Ch., quibus significatur illas stellas in catalogis DD. Schoenfeld et Chandler stellae variabili vicinas indicari. Haec nomina signa quaedam sequuntur satis perspicua, quorum postremo ($\pm$) monemur vel alterutram vel utramque coordinatam ibi esse inversam.

Quoniam claritas earum stellarum, quae magnitudinem 7^m superant, methodo a nobis adhibita bene determinari non potest, adduntur in notis magnitudines ex aliis quibusdam Catalogis petitae. In hac II^a Serie usui fuit Catalogus DD. J. Müller et P. Kempf, designatus PD. (Publicationen des Astrophysicalischen Observatoriums zu Potsdam, Bde. IX, XIII).

Stellas autem, quae in variis Chartis Eclipticis inveniuntur, in Notis designare parum utile visum est, quoniam neque magnitudines neque positiones earum in catalogos redactae sunt.

Reliquum est, ut dicam, observationes et positionum et graduum lucis factas esse a me ipso, computationes autem magnitudinum stellarum et inclinationum scalae a sociis meis, illas a Fr. M. Esch, S. I., has a P. I. T. Hedrick, S. I.

Neque praetereundum est D. Henricum M. Parkhurst et D. Ernestum Hartwig et D. Eduardum C. Pickering chartas huius seriei examini subiecisse, eo consilio, ut error confundendi stellam variabilem cum aliis vicinis excluderetur.

Quibus viris aliisque omnibus, qui huic operi vel componendo vel typis edendo auxilium praebuere, gratissimi animi sensum exprimere liceat. Quae gratiae imprimis debentur Clarissimae Dominae, cuius nomen in folio titulari apparet; item D. Eduardo C. Pickering, cuius illa commendationibus inducta huic editioni subsidia praebuit; debentur etiam librario, qui, his subsidiis minime in securo collocatus, tamen in hoc Atlante ad pulchritudinis normam imprimendo neque labori pepercit neque periculo.

Faxit Deus, quo magis in dies caeli enarrent gloriam suam, ut hoc Atlante via paretur ad stellarum variabilium arcana altius investiganda, plenius intellegenda.

Ex Collegio Georgiopolitano, Nativitate Domini
anno MDCCCIC.

I. G. Hagen, S. I.

Typ O. Bonde, Altenburg.

T Piscium

$0^h\ 24^m\ 29^s$ (1855.0) $+13^\circ 48'.0$

Variatio Irregularis.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8.0	7.5	$+2^m 12^s$	$-5'.4$	PD. $8^M.0$	16	65	10.5		$+0^m 42^s$	$+8'.1$	
2	25	9.0	9.5	+1 32	−20.4		17	72	10.7		−0 25	+ 0.6	
3	31	9.2	9.5	−0 22	−22.1		18	73	10.8		−0 0	− 5.7	
4	31	9.2	9.5	−0 24	−30.0		19	75	10.8		−0 39	+ 6.6	
5	35	9.3	9.5	+0 37	−19.5		20	78	11.0		−0 32	− 5.7	
6	36	9.4	9.3	−1 28	+21.6		21	78	11.0		+0 25	+ 8.7	
7	39	9.5	9.5	+0 25	− 0.3		22	81	11.1		+0 30	0.0	
8	42	9.6	9.5	+1 7	− 6.0		23	81	11.1		−0 27	− 9.0	
9	45	9.7	9.5	+0 13	+25.5		24	86	11.3		−0 49	−11.4	
10	46	9.8	9.5	+0 56	+ 1.8		25	87	11.3		−0 21	+14.4	
11	47	9.8	9.5	−1 15	− 3.3		26	94	11.6		−0 15	+ 9.0	
12	50	9.9	9.5	+1 32	+ 6.6		27	97	11.7		−0 10	− 1.2	
13	54	10.0		−0 15	+ 6.6								
14	59	10.2		−0 41	− 0.6								
15	59	10.3		−0 28	+13.8								

$$M = 9.5 + 0.038\ (G - 39.0).$$

S Piscium

$1^h\ 10^m\ 0^s$ (1855.0) $+8°\ 9'.9$

Max. = 2 402 606^d (4. Ian. 1866) + 404^d.3 E (Periodo decrescente).

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8.4	8.2	$+1^m 54^s$	$-32'.3$	
2	3	8.5	8.5	−1 57	− 9.6	
3	14	9.0	9.1	−0 39	−26.7	
4	19	9.2	9.3	−0 19	− 2.7	
5	23	9.3	9.4	+1 57	+18.3	
6	26	9.5	9.5	+1 36	+14.7	
7	27	9.5	9.5	−1 45	+ 6.6	
8	30	9.6	9.5	+0 39	− 0.3	
9	31	9.7	9.5	+0 30	+ 7.8	
10	36	9.9		−0 54	+ 7.8	
11	43	10.1	9.5	+0 6	−12.6	
12	47	10.3		+0 28	−12.3	
13	49	10.4		−1 13	− 4.8	
14	53	10.6		+0 50	+ 5.7	
15	56	10.7		+0 14	− 1.8	
16	60	10.9		+0 58	+12.0	
17	60	10.9		−0 16	−10.8	
18	63	11.0		$+0^m 38^s$	$-2'.4$	
19	63	11.0		−0 16	−10.5	
20	64	11.0		+0 49	− 6.9	
21	67	11.1		−1 2	− 5.4	
22	68	11.2		−0 33	+ 1.2	
23	72	11.3		−0 29	− 8.1	
24	72	11.4		+0 55	−12.9	
25	74	11.4		+0 1	+ 0.6	Sch. $11 \cdot 12^M$
26	75	11.5		+0 2	+10.7	
27	77	11.5		+0 7	+ 4.5	
28	78	11.6		−0 2	− 0.6	Sch. 12^M
29	78	11.6		−0 10	+ 6.6	
30	81	11.7		+0 8	− 2.7	
31	82	11.7		−0 03	+ 8.4	
32	82	11.7		−0 38	− 9.3	

$$M = 9.4 + 0.041\ (G - 24.5).$$

Series II.

U Piscium

$1^h\ 15^m\ 18^s$ (1855.0) $+12^{\circ}\ 6'.4$

Max. = 2 407 723^d (8. Ian. 1880) + 172^d.7 E.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1			7.0	$-1^m\ 0^s$	$-16'.2$	PD. $7^M.2$	13	47	10.5		$-0^m\ 20^s$	$-16'.2$	
2	0	8.7	8.8	−0 23	+14.1		14	51	10.7		−0 56	+10.8	
3	1	8.8	8.8	−0 44	−12.6		15	54	10.8		+0 13	− 4.2	
4	2	8.8	8.6	+1 55	−19.8		16	57	10.9		+0 37	+ 3.9	
5	4	8.9	9.0	+1 2	−27.9		17	62	11.1		+0 11	+ 0.9	
6	10	9.1	9.2	+1 16	+ 2.7		18	63	11.1		−0 59	+ 7.8	
7	10	9.1	9.1	+0 15	−13.2		19	67	11.3		+0 38	− 7.2	
8	15	9.3	9.2	−0 25	− 7.2	*	20	71	11.4		+0 55	+ 0.6	
9	34	10.0	9.5	−0 48	+15.9		21	76	11.6		0 0	−13.8	
10	37	10.1		+0 21	+ 5.1		22	76	11.6		+0 7	+ 0.3	
11	38	10.2		−0 37	+11.7		23	80	11.9		−0 58	+12.7	
12	42	10.3		0 0	−10.2								

* 8 — Lamont 10^M, $+3^s$, $-7'.1$ (München. N. A. I, 671)?

$$M = 8.8 + 0.038\ (G - 2.0).$$

Series II.

R Piscium

$1^h\,23^m\,10^s$ (1855.0) $+2^\circ\,7'.9$

Max. = 2402928^d.0 (22. Nov. 1866) + 344^d.15 E + 13^d sin (12° E + 180°).

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	7.9	7.8	$+1^m\,35^s$	$+48'.4$		18	48	10.3		$+0^m\,7^s$	$+0\,6'.$	Sch. 11^M
2	5	8.2	8.3	+2 6	+ 9.0		19	54	10.6		+0 17	− 4.8	
3	12	8.6	8.8	+1 2	−18.7		20	57	10.8		+0 40	+ 6.3	
4	12	8.6	8.8	−0 9	+ 5.8		21	59	10.9		+0 46	−11.1	
5	18	8.8	9.0	+0 35	0.0		22	60	11.0		−0 39	+10.5	
6	22	9.1	9.0	−1 51	−24.0		23	63	11.1		+0 32	+ 6.4	
7	24	9.2	9.2	+0 22	+27.9		24	66	11.3		+0 34	+ 1.2	
8	26	9.2	9.2	−1 15	− 6.3		25	66	11.3		+0 45	+15.6	
9	28	9.4	9.2	−1 19	− 7.2		26	70	11.4		+0 26	− 4.5	
10	28	9.4	9.3	+1 41	−16.8		27	72	11.6		−0 25	+12.6	
11	29	9.4	9.5	+1 18	+28.5		28	75	11.7		+0 18	− 8.7	
12	31	9.5		−1 8	−21.0		29	77	11.8		−0 24	+13.2	
13	34	9.6		−0 4	−18.0		30	78	11.9		−0 44	− 1.5	
14	35	9.7	9.5	−0 46	−22.2		31	82	12.1		+0 13	+ 1.2	
15	40	10.0		+1 6	+15.3		32	88	12.4		+0 21	+ 6.3	
16	45	10.2		+0 46	+ 3.9								
17	45	10.2	9.5	+1 0	+ 9.9	BD.$+57^s$,$+10'.8$							

M = 9.2 + 0.050 (G — 25.0).

Series II.

S Arietis

$1^h\,56^m\,51^s$ (1855.0) $+11^\circ\,49'.7$

Max. = 2 404 867^d (22. Mart. 1872) + 292^d.2 E (Inaequalitas periodica).

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1			7.5	$-2^m\,13^s$	$+\;9'.6$	PD. $7^M.1$	21	53	10.6		$-0^m\,58^s$	$+14'.6$	
2	0	8.5	8.3	−2 31	−20.8		22	58	10.8		+1 8	+ 6.8	
3	6	8.8	9.0	−1 32	−11.0		23	59	10.9		+0 8	+ 6.2	Ch. $10^M.5$
4	9	8.9	9.0	−0 46	−18.2		24	60	10.9		+0 11	+10.7	
5	13	9.1	9.1	+1 37	− 5.2		25	64	11.1		−0 1	−11.2	
6	15	9.1	9.3	−1 29	−27.5		26	67	11.2		+1 8	+ 9.2	
7	18	9.3	9.5	−0 11	− 5.5		27	69	11.3		−0 45	+ 0.2	
8	20	9.3	9.3	−1 55	+ 2.1		28	69	11.3		+0 16	−14.5	
9	21	9.4	9.4	−0 6	+12.9		29	72	11.4		+0 41	− 8.5	
10	22	9.4	9.2	+1 57	+16.4		30	73	11.5		−0 33	+ 6.8	
11	22	9.4	9.5	+0 55	−21.2		31	75	11.5		−1 8	+ 5.9	
12	24	9.5	9.5	−0 28	−24.1		32	75	11.5		+0 20	− 5.8	
13	26	9.6	9.5	+1 34	−20.4		33	79	11.7		−0 31	+ 3.2	
14	28	9.7		−0 22	+ 4.4		34	79	11.7		+0 38	+ 8.9	
15	33	9.9	9.5	−0 47	+16.3		35	81	11.8		−0 11	− 1.6	
16	37	10.1	9.5	−0 51	− 5.6		36	84	11.9		−0 58	− 6.7	
17	43	10.2		−0 19	− 2.2		37	86	12.0		−0 9	− 2.2	
18	45	10.3		−1 7	+ 3.8								
19	49	10.5		−0 15	+12.5								
20	53	10.6		+1 5	+ 7.4								

M = 8.9 + 0.040 (G — 9.4).

R Arietis

$2^h\,7^m\,53^s$ (1855.0) $+24^0\,22'.8$

Max. = 2 402 849^d.0 (4. Sept. 1866) + 186^d.55 E (Inaequalitas periodica).

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6.0	$-0^m\,23^s$	$-\;0'.9$	PD. $5^M.7$, 21 Ar.	16	52	10.5		$+0^m\,53^s$	$+\;3'.0$	
2			6.5	−0 45	−45.4	„ 7.0	17	57	10.6		+0 5	− 8.7	
3	0	8.7	8.8	−0 3	−56.3		18	60	10.7		+0 13	− 0.9	
4	6	8.9	9.1	+0 28	−27.3		19	63	10.8		−0 12	+ 0.3	
5	14	9.2	9.4	+1 42	+ 3.9		20	64	10.9		+0 17	+ 0.6	
6	20	9.4	9.3	+1 16	−13.2		21	67	11.0		+0 49	+10.5	
7	20	9.4	9.4	−0 50	+ 1.2		22	68	11.0		−0 18	− 4.2	
8	20	9.4	9.4	+0 32	+24.1		23	71	11.1		−0 16	+10.4	
9	26	9.6	9.5	+0 22	+ 6.6		24	71	11.1		+0 29	− 3.0	
10	30	9.7	·	−0 46	+ 2.1		25	76	11.3		−0 55	+13.8	
11	33	9.8		+1 5	+ 1.2		26	76	11.3		+0 21	+ 0.3	
12	34	9.9		−0 45	+ 3.9		27	76	11.3		+0 32	+10.2	
13	37	10.0		−1 10	+ 8.7		28	78	11.3		0 0	− 3.0	
14	38	10.0		+0 38	+11.8		29	80	11.4		−0 55	+ 7.2	
15	44	10.2		−0 38	+11.7								

M = 9.4 + 0.033 (G — 19.9).

Series II

1113

U Arietis

$3^h\,3^m\,1^s$ (1855.0) $+14^0\,14'.8$

Max. = 2 412 415^d (12. Nov. 1892) + 361^d E.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8.3	7.8	$-2^m\,20^s$	+33′.0		16	54	10.6		$-0^m\,17^s$	+ 5′.1	
2	8	8.7	8.7	−0 16	+32.9		17	59	10.8		−0 2	−11.4	
3	12	8.8	8.8	−0 16	−27.6		18	62	10.9		+1 57	+15.0	
4	14	9.0	9.0	−1 4	+34.0		19	64	11.0		−0 26	+ 8.2	
5	22	9.3	9.3	−0 14	+20.2		20	64	11.0		−0 16	+ 5.1	
6	26	9.4	9.5	+0 5	− 5.7		21	66	11.0		+0 34	+ 6.9	
7	30	9.6	9.5	−1 38	+26.3		22	67	11.1		+0 12	+ 3.0	
8	31	9.6		−0 59	+ 2.4		23	70	11.2		−0 11	− 7.2	
9	36	9.8		−0 50	−11.8		24	72	11.3		+0 34	+10.2	
10	36	9.8	9.5	+0 22	−13.0		25	74	11.4		−0 23	−11.1	
11	37	9.8	9.5	+1 6	+23.1		26	77	11.5		−0 39	−14.1	
12	37	9.9		+0 39	−16.5		27	83	11.8		−0 24	− 6.6	
13	40	10.0	9.5	+1 21	+14.7		28	86	11.9		+0 3	+ 3.9	
14	43	10.1	9.5	+1 4	−12.6								
15	48	10.3		−1 3	− 2.2								

$M = 9.0 + 0.041\,(G - 15.9)$.

Series II.

T Tauri

$4^h\ 13^m\ 33^s$ (1855.0) $+19^\circ\ 11'.3$

Variatio Irregularis.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	7.8	7.9	-1^m46^s	$-18'.6$		11	55	10.0		$+0^m30^s$	$-9'.6$	
2	13	8.3	8.7	−0 16	− 3.9		12	60	10.2		−1 7	− 1.7	
3	33	9.1	9.0	+1 23	+ 7.5		13	76	10.8		−0 14	− 3.0	
4	39	9.3	9.4	−0 10	+17.1		14	80	11.0		−0 32	+11.4	
5	39	9.4	9.4	−1 18	−17.7	Dpl., D'Arrest*	15	85	11.2		−0 51	+ 5.7	
6	41	9.4	9.3	−1 41	+ 5.1		16	93	11.5		+0 22	+ 4.5	
7	43	9.5	9.4	+1 28	+16.8		17	94	11.6		−0 1	+ 8.7	
8	44	9.5	9.5	+0 53	− 6.7		Neb.				−0 2	− 0.7	NGC. 1555**
9	48	9.7	9.5	+1 25	+11.7		Neb.				−0 17	− 0.9	„ 1554**
10	51	9.8		−0 51	+ 3.3								

*) Olim designata U Tauri, Sch. I, 17. Vide Sch. II, p. 3.

**) Ambae dicuntur esse variabiles a D'Arrest, aliisque. Vide notas in NGC. et Supplemento (Mem. R.A.S. vol. 49, P. I, p. 214 et vol. 51, p. 225) et in Sch. II et Ch. III. Neb. 1554 nunquam visa; cf. historiam et observationes a Cl. Barnard descriptas in „Monthly Notices" 1895 et 1899.

$$M = 9.5 + 0.040\ (G - 42.7).$$

W Tauri

$4^h\ 19^m\ 41^s$ (1855.0) $+15^\circ\ 42'.9$

Periodus Irregularis.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1			4.0	$+0^m 42^s$	$-10'.5$	PD. $3^M.8$, θ^2 Tauri
2			4.0	+0 37	− 4.8	» 4.0, θ^1 »
3			5.0	−1 36	−25.2	» 4.8, 71 »
4			5.0	+0 29	+18.9	» 5.2, 75 »
5			6.5	+1 2	+ 6.9	» 6.9, var.?
6	0	8.0	8.2	−0 21	−27.9	
7	2	8.1	7.7	−1 51	−32.1	
8	6	8.4	8.7	+0 23	+15.6	
9	11	8.8	9.3	+1 56	+37.1	
10	19	9.3	9.5	−1 3	+27.9	
11	19	9.3	9.5	+1 35	+25.2	
12	20	9.4	9.5	−1 50	− 0.3	
13	23	9.6	9.3	−0 20	− 0.6	
14	24	9.7	9.5	−1 31	+27.9	
15	25	9.7	9.5	+1 33	+12.3	
16	29	10.0		+0 52	+15.0	
17	36	10.5		−0 16	− 3.0	
18	39	10.7		$-0^m 36^s$	$-\ 3'.3$	
19	40	10.8		−1 7	+17.4	
20	43	11.0		−0 32	+ 8.4	
21	49	11.4		−0 31	− 6.0	
22	53	11.7		+0 55	− 3.6	
23	58	12.0		−0 25	− 0.6	
24	60	12.1		+0 1	+12.3	
25	61	12.2		+0 8	+10.8	
26	61	12.3		−0 9	−15.0	
27	63	12.4		−0 1	−14.7	
28	63	12.4		+0 44	+10.8	
29	64	12.4		+0 14	+ 9.6	
30	64	12.5		+0 1	− 4.5	
31	68	12.7		−0 10	+ 0.2	

Error in Decl. hujus Variabilis ex Publicat. Potsdam. (vol. III. no. 594) transivit in varios catalogos, ut Espin-Birmingham (no. 89), Krüger F. (no. 355), V. J. S. et Ch. I, II. Stella haec deest in BD. et A. G. C.

BD. + 15° 629 ($9^M.5$, $+13^s$ —14′.5) nunquam visa (1890, 91, 94, 95, 96). Var.?

$$M = 8.2 + 0.069\ (G - 1.4).$$

R Tauri

$4^h\,20^m\,21^s$ (1855.0) $+9^\circ\,50'.1$

Max. = 2 401 262^d (1. Maii 1862) + 325^d E.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0		7.0	$+1^m 44^s$	$+\ 5'.7$	PD. $6^M.7$
2	4		7.0	+1 24	+21.9	PD. 7.1
3	12	7.9	7.8	−0 15	− 5.1	
4	20	8.3	8.3	−0 27	− 8.6	
5	40	9.3	9.5	−1 35	−27.3	BD. $40^s.3$, $24'.3$
6	45	9.5	9.4	−0 27	+ 7.8	
7	47	9.6		−0 26	− 9.3	
8	49	9.7	9.5	+1 12	−19.8	
9	49	9.7	9.5	+1 31	−12.9	
10	51	9.8	9.5	+0 41	+17.9	
11	51	9.8		−0 28	+ 9.3	
12	54	10.0		−0 2	−13.5	
13	54	10.0		−0 4	+16.5	
14	55	10.0		−0 53	+19.2	
15	55	10.0	9.5	+1 53	− 6.8	
16	58	10.2		$-0^m 28^s$	$+11'.1$	
17	59	10.2	9.5	−1 57	+17.7	
18	60	10.2		+0 36	− 7.7	
19	60	10.3		−0 44	0.0	
20	64	10.5		−0 46	+13.8	
21	66	10.5		+1 0	+ 1.6	
22	69	10.7		+0 53	+ 8.1	
23	69	10.7		+0 1	+ 2.1	Ch. 10^M
24	73	10.8		+0 24	− 5.6	
25	73	10.9		−0 53	+13.8	
26	78	11.1		+0 32	+ 0.6	
27	85	11.5		+0 27	−13.8	
28	91	11.8		+0 38	− 9.3	
S			var.	+0 54	−12.9	

$$M = 8.3 + 0.048\ (G - 19.5).$$

S Tauri

$4^h\ 21^m\ 16^s$ (1855.0) $+9^\circ\ 37'.3$

Max. = 2 400 455^d.5 (14. Febr. 1860) + 375^d.5 E ?

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0		7.0	$+0^m\ 50^s$	$+18'.6$	PD. $6^M.7$
2	12	7.9	7.8	−1 9	+ 7.8	
3	20	8.3	8.3	−1 21	+ 4.4	
4	28	8.7	9.1	−1 23	−29.7	
5	29	8.7	9.2	−1 24	−25.8	
6	34	9.0	9.2	−1 25	−24.3	
7	37	9.2	9.2	+1 48	+28.8	
8	45	9.5	9.4	−1 21	+20.7	
9	49	9.7	9.5	+0 37	0.0	
10	49	9.7	9.5	+0 17	− 6.9	
11	50	9.7	9.5	+0 13	−24.3	
12	(52)	9.8		+1 50	− 5.4	
13	54	10.0		−0 56	− 0.6	
14	55	10.0	9.5	+0 59	+ 6.1	
15	60	10.2		−0 19	+ 5.2	
16	60	10.2		+1 12	+ 0.3	
17	62	10.3		−0 24	− 9.9	
18	63	10.4		−0 7	− 4.9	
19	65	10.5		+0 32	+12.6	
20	66	10.5		+0 5	+14.6	
21	69	10.7		$-0^m\ 53^s$	$+15'.0$	
22	70	10.7		−0 32	−12.6	
23	73	10.8		−0 31	+ 7.4	
24	77	11.0		+0 43	− 6.6	
25	78	11.1		−0 22	+13.5	
26	78	11.1		+0 22	+ 6.3	
27	78	11.1		−0 19	−12.7	
28	79	11.2		+0 33	+ 2.7	
29	80	11.2		+0 21	− 9.6	
30	82	11.4		−0 11	−15.0	
31	83	11.4		+0 11	− 2.1	
32	85	11.5		−0 27	− 0.6	
33	86	11.6		+0 55	+12.3	
34	88	11.7		+0 6	− 2.1	
35	88	11.8		−0 32	− 6.0	
36	91	11.9		−0 17	+ 3.9	
37	92	12.0		+0 25	− 0.3	
38	97	12.2		+0 25	+ 0.3	
R			var.	−0 54	+12.9	

Ch. { $11^M.5$, $+9^s$, $-1'$, ; 11.5, +4, −0.7 ; 12, −6, +1 } invisib.

M = 8.3 + 0.048 (G − 19.5).

Series II.

V Tauri

$4^h\,43^m\,39^s$ (1855.0) $+17°\,17'.4$

Max. = 2 405 050 (13. Sept. 1872) + $170^d.1$ E (Inaequalitas periodica).

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1	0	7.4	7.0	$-1^m\,38^s$	$-20'.7$	PD. $7^M.4$
2	2	7.5	7.5	+2 1	−30.5	PD. 7.5
3	23	8.6	9.0	−1 43	− 0.9	var.?
4	25	8.7	9.5	−0 12	+ 9.1	
5	28	8.8	9.0	+0 35	−12.3	
6	34	9.1	9.2	−0 43	− 9.9	
7	39	9.4	9.4	+0 43	−21.0	
8	40	9.5	9.5	−0 6	+ 6.3	
9	42	9.5	9.5	+2 2	− 6.7	
10	42	9.5	9.5	+0 14	+ 8.7	
11	44	9.7	9.4	−0 21	− 4.2	
12	44	9.7	9.5	+0 53	+22.2	
13	48	9.8	9.5	+0 56	−23.4	
14	49	9.9	9.4	−0 21	+21.9	
15	50	9.9	9.5	+0 58	−15.6	
16	50	9.9	9.5	−0 7	+29.0	
17	55	10.2		−0 38	− 8.1	
18	59	10.4		−0 22	−14.7	
19	62	10.5	9.5	−1 10	+12.3	
20	64	10.6		−1 8	+12.3	
21	66	10.7		−0 54	−14.4	
22	74	11.1		−0 17	+ 8.4	
23	74	11.1		$-0^m\,10^s$	$+ 8'.5$	
24	78	11.3		+0 22	+10.2	
25	78	11.3		+0 12	+ 4.2	Ch. $11^M.5$
26	79	11.4		−0 58	+ 1.8	
27	82	11.5		+0 29	− 0.9	
28	83	11.6		−0 38	+11.1	
29	84	11.6		+0 11	−14.7	
30	84	11.6		+0 11	+10.3	
31	85	11.7		−0 37	+ 9.3	
32	86	11.7		−0 31	− 7.5	
33	87	11.8		−0 25	+ 5.1	
34	88	11.8		−0 54	+ 4.2	
35	90	12.0		−0 22	+ 3.0	
36	92	12.0		+0 25	+ 7.8	
37	100	12.4		+0 39	+ 6.9	
38	100	12.4		−0 28	+ 7.5	
39	104	12.6		+0 13	− 0.3	Sch. 12.13^M
40	106	12.7		−0 45	−13.8	
41	107	12.8		+0 1	+ 4.5	
42	109	12.9		−0 33	− 9.3	

$$M = 9.5 + 0.050\,(G - 41.2).$$

Series II.

R Orionis

$4^h\ 51^m\ 8^s$ (1855.0) $+7^\circ\ 54'.3$

Max. = 2 398 666^d (23. Martii 1855) + 380^{d}0 E.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8.5	8.3	$+2^m16^s$	$-14'.7$	
2	0	8.5	8.7	−1 11	+36.0	
3	10	8.8	8.9	−0 55	+14.4	
4	16	9.1	9.1	−0 50	+29.3	
5	17	9.1	9.3	+1 29	+15.3	
6	21	9.2	9.2	+0 4	+16.8	
7	25	9.4	9.5	−0 20	+12.0	
8	25	9.4	9.5	+1 35	+24.3	
9	30	9.6	9.5	−0 44	−27.0	
10	30	9.6	9.3	+1 20	+18.3	
11	32	9.6	9.4	−0 45	−24.3	
12	33	9.7		+0 30	−21.0	
13	34	9.7	9.5	+1 59	−13.0	
14	35	9.7	9.5	−0 22	−11.4	
15	36	9.8	9.5	+0 13	−19.5	
16	42	10.0		−0 11	−23.7	
17	44	10.1		−0 38	+10.2	
18	48	10.2	9.5	−0 12	− 3.6	
19	61	10.7		−0 27	− 1.5	
20	64	10.8		−0 33	+10.8	
21	64	10.8		+0 21	+ 3.0	
22	68	10.9		+0 4	+ 8.7	
23	69	11.0		−0 40	+ 9.0	
24	71	11.0		−0 41	− 7.2	
25	75	11.2		+0 6	+ 3.3	
26	77	11.2		-0^m27^s	$-\ 6'.9$	
27	79	11.3		+0 51	+12.0	
28	79	11.3		+0 31	+ 3.1	
29	80	11.4		−0 55	− 8.4	
30	84	11.5		+1 0	− 6.1	
31	85	11.5		−0 8	+ 6.0	
32	87	11.6		+0 36	−11.7	
33	89	11.7		+0 28	−14.4	
34	91	11.7		+0 32	− 2.9	
35	91	11.8		+0 17	+ 3.0	
36	91	11.8		+0 11	−12.1	
37	93	11.8		+0 17	− 9.9	
38	96	11.9		+0 47	− 6.6	
39	97	12.0		−0 8	+ 0.6	
40	98	12.0		−0 42	+ 6.3	
41	99	12.0		−0 19	+ 4.5	
42	103	12.2		+0 2	+ 9.6	
43	104	12.2		−0 30	− 3.0	
44	107	12.3		−0 11	+ 5.1	
45	108	12.4		−0 8	− 7.5	
46				−0 7	− 0.6	Ch. 12^M

Sch. (I) $12 \cdot 13^M_\cdot$, $+3^s$, $+0'.2$ } invisib.
Ch. $11^M_\cdot$, $+11^s$, $+0'.3$ }

$M = 9.0 + 0.036\ (G - 14.4)$.

V Orionis

$4^h\,58^m\,25^s$ (1855.0) $+3^\circ\,54'.0$

Max. = 2 411 778^d (14. Febr. 1891) + 266^d E ?

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1	0	8.1	8.0	$+2^m\ 4^s$	−20′.9	
2	2	8.2	7.9	+0 2	−18.3	
3	7	8.4	8.4	+1 32	+26.9	
4	12	8.5	8.7	−0 40	+29.3	
5	17	8.7	9.0	+1 31	+29.4	
6	22	8.9	9.0	+0 24	− 4.2	
7	24	9.0	8.8	−0 27	+ 4.2	
8	27	9.1	8.8	−1 34	− 3.4	
9	31	9.2	9.4	+1 20	+ 9.6	
10	35	9.3	9.3	−1 16	+19.5	
11	35	9.3	9.3	+0 49	−28.1	
12	39	9.5	9.3	+1 46	−30.2	
13	40	9.5	9.4	+0 39	+ 9.0	
14	41	9.5	9.5	+1 51	−26.6	
15	42	9.6	9.5	+0 9	+15.0	
16	44	9.6	9.3	−0 32	−16.2	
17	44	9.7	9.3	+1 45	−27.2	
18	48	9.8	9.5	+1 11	+ 5.7	
19	52	9.9	9.5	+0 39	− 9.3	
20	54	10.0	9.5	−1 27	− 3.2	
21	55	10.0	9.4	−0 10	− 3.3	
22	60	10.2	9.5	+1 27	+17.7	
23	60	10.2	9.3	−1 47	−14.9	
24	65	10.4		$-0^m\ 32^s$	−14′.9	
25	69	10.5		+1 2	−15.6	
26	70	10.6		−0 25	−10.8	
27	75	10.7		+0 8	− 9.6	
28	77	10.8		−0 23	+ 6.7	
29	80	10.9		+0 26	− 0.4	
30	81	10.9		−0 56	+12.6	
31	83	11.0		+0 33	−13.8	
32	88	11.2		+0 22	+ 6.0	
33	89	11.2		+0 15	−11.1	
34	94	11.4		−0 3	+14.1	
35	97	11.5		+0 39	+ 9.6	
36	98	11.5		−0 55	−14.5	
37	101	11.6		+0 51	+12.6	
38	103	11.7		+0 30	− 6.3	
39	107	11.8		+0 20	− 5.7	
40	112	12.0		−0 5	− 0.9	
41	118	12.2		−0 46	− 9.0	
42	121	12.3		−0 59	−15.3	
43	122	12.4		+0 12	+ 3.1	
44	126	12.5		+0 22	+ 0.6	
45	129	12.6		+0 5	− 4.2	

$$M = 8.9 + 0.035\ (G - 22.4).$$

U Orionis

$5^h\,47^m\,13^s$ (1855.0) **$+20°\,8'.7$**

Max. = 2 409 877^d (1. Dec. 1885) + 375^d E?

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1			5.0	-1^m25^s	$+\ 6'.3$	PD. $4^M.7$, χ^1 Or.	36	37	10.5		-0^m34^s	$+12'.6$	
2			6.3	−0 52	−26.1	PD. 6.3, 57 Or.	37	38	10.5	9.5	+0 9	−16.2	
3	0	8.0	7.2	−2 31	+ 6.9	PD. 6.9	38	39	10.5		−0 23	−12.3	
4	3	8.2	8.2	−0 13	+17.7		39	40	10.7		−0 8	− 6.0	
5	8	8.5	8.6	−0 36	+17.4		40	41	10.7	9.5	+0 40	− 8.1	
6	10	8.6	8.5	−0 38	−29.3		41	43	10.9		+0 4	− 0.3	
7	13	8.8	9.0	+1 26	−13.0		42	44	10.9		−0 48	+ 7.2	
8	13	8.8	8.7	+0 32	+25.2		43	48	11.2		+0 26	−11.7	
9	15	9.0	9.4	+1 6	− 3.7		44	49	11.2		−0 48	+ 6.0	
10	16	9.0	9.5	+1 42	+11.4		45	52	11.4		+0 28	+ 4.2	
11	17	9.1	9.2	+0 3	− 3.4		46	52	11.4		−0 4	−12.3	
12	18	9.1	9.0	+0 49	−26.1		47	54	11.6		+0 44	+11.4	
13	21	9.4	9.4	+1 29	+24.6		48	54	11.6		+0 46	− 3.6	
14	22	9.4	9.5	−0 36	− 0.6		49	55	11.6		+0 18	+ 6.6	
15	22	9.4	9.3	+0 39	− 5.5		50	56	11.7		−0 20	+11.7	
16	22	9.4	9.5	+2 1	−12.6		51	57	11.8		−0 16	+11.1	
17	23	9.5	9.4	−1 31	+22.5		52	58	11.9		+0 48	+ 5.1	
18	24	9.6	9.5	+1 28	+ 6.0		53	59	11.9		+0 12	−10.8	
19	26	9.7	9.5	+1 1	−26.1		54	59	11.9		+0 37	− 1.5	
20	26	9.7		−0 8	+ 9.3		55	61	12.0		−0 27	− 3.0	
21	27	9.8	9.4	+0 31	− 0.3		56	62	12.1		+0 12	+12.6	
22	28	9.8	9.4	−0 13	−25.8		57	62	12.1		−0 31	− 0.3	
23	28	9.9		−0 51	−23.4	*	58	63	12.1		−0 48	+ 2.7	
24	29	9.9	9.5	+1 42	+23.4		59	63	12.1		+0 55	− 7.2	
25	30	9.9	9.5	+0 17	− 8.4		60	63	12.1		+0 21	− 9.0	
26	30	10.0		+0 37	−11.8		61	63	12.2		+0 41	− 5.7	
27	30	10.0	9.4	−1 20	− 4.8		62	63	12.2		−0 24	− 6.0	
28	30	10.0	9.5	−0 9	−17.1		63	64	12 2		+0 11	+10.8	
29	31	10.0		+0 21	+ 1.2		64	64	12.2		−0 9	+12.9	
30	31	10.0	9.5	−0 54	+ 0.7		65	64	12.2		+0 54	− 1.2	
31	31	10.0	9.5	+0 20	+ 6.6		66	64	12.2		+0 8	− 9.3	
32	33	10.2	9.5	+0 28	+26.7		67	64	12.3		−0 14	−14.7	
33	33	10.2	9.4	−1 36	−15.0		68	66	12.4		+0 34	− 5.4	
34	34	10.2		−0 45	−18.0	*	69	66	12.4		−0 8	−10.5	
35	35	10.3	9.5	+0 31	− 5.7		70	66	12.4		+0 46	−12.6	

* $\frac{1}{2}$(23 + 34) = BD. + 19° 1129, $9^M.5$.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
71	66	12.4		-0^m35^s	$-8'.1$	
72	67	12.4		−0 38	− 6.9	
73	67	12.4		+0 26	+12.9	
74	67	12.4		+0 35	+ 9.9	
75	67	12.5		+0 22	− 7.2	
76	69	12.6		+0 54	− 3.9	
77	69	12.6		−0 6	+ 7.8	
78	70	12.6		−0 45	− 2.7	
79	70	12.6		−0 38	+ 3.3	
80	71	12.7		−0 29	+13.5	
81	71	12.7		+0 11	+10.2	
82	71	12.7		+0 11	− 3.0	
83	72	12.7		−0 18	− 2.1	
84	72	12.8		−0 16	+ 6.1	
85	72	12.8		+0 32	−14.4	
86	72	12.8		−0 55	+ 0.5	
87	73	12.9		+0 47	−13.5	
88	74	12.9		−0 8	−10.2	
89	74	12.9		−0 52	+ 7.5	
90	74	12.9		+0 27	− 9.3	
91	74	12.9		$+0^m56^s$	$+4'.5$	
92	74	12.9		−0 20	−14.1	
93	75	13.0		−0 9	+13.8	
94	75	13.0		+0 37	−12.3	
95	75	13.0		−0 27	+ 9.0	
96	76	13.1		+0 52	−12.0	
97	76	13.1		+0 8	−12.0	
98	77	13.1		−0 47	+ 3.6	
99	77	13.1		+0 2	− 1.8	
100	77	13.1		+0 40	0.0	
101	77	13.1		−0 31	− 8.7	
102	78	13.2		+0 15	− 4.2	
103	78	13.2		0 0	+ 8.1	
104	82	13.4		+0 34	−12.3	
105	82	13.5		−0 38	+ 8.7	
106	84	13.6		−0 45	+ 2.4	
107	86	13.6		−0 3	0.0	

$$M = 8.4 + 0.067\ (G - 6.6).$$

Series II.

R Geminorum

$6^h\,58^m\,37^s$ (1855.0) $+22^\circ\,55'.4$

Max. = 2403370^d.0 (7. Febr. 1868) + 370^d.2 E + 35^d sin (6° E + 78°).

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae	Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1	0	(7.4)	7.1	−2^m 3^s	− 4′.3	PD. 6^M.3, 44 Gem.	31	94	10.9		−0^m 17^s	− 0′.1	
2	17	8.1	8.0	+2 24	−20.2		32	99	11.1		+0 8	+ 6.6	
3	27	8.4	8.4	−0 3	−11.5		33	100	11.2		−0 14	+ 4.5	
4	28	8.5	8.5	−1 4	− 1.0		34	101	11.2		+0 40	−10.2	
5	34	8.7	8.8	−0 1	−20.3		35	103	11.2		−0 59	−12.6	
6	40	8.9	9.0	+0 2	+ 5.8		36	104	11.3		+0 44	+ 1.2	
7	41	9.0		+0 16	+29.6		37	104	11.3		+0 7	−13.8	
8	41	9.0	9.3	−0 46	+ 9.1		38	105	11.3		−0 4	− 6.1	
9	44	9.1	9.1	+0 27	+ 3.3		39	106	11.4		−0 19	− 0.9	
10	48	9.2		+0 6	+25.5	BD. +23° 1606? 9^M.5	40	106	11.4		−0 4	− 2.7	
11	48	9.2	9.0	+0 6	+15.6		41	107	11.4		+0 16	+ 6.3	
12	53	9.4	9.3	−1 34	− 0.7		42	109	11.5		−0 33	+11.7	*
13	55	9.5	9.5	+1 9	+ 9.5		43	112	11.5		+0 16	+ 5.1	
14	56	9.5		+1 1	+16.8		44	113	11.6		+0 15	−11.4	
15	61	9.7	9.4	−0 31	−17.2		45	114	11.6		−0 35	+11.4	*
16	61	9.7	9.3	−0 12	+14.1		46	115	11.7		+0 9	− 8.8	
17	61	9.7	9.4	+2 2	+ 5.7		47	118	11.8		+0 35	− 5.4	
18	62	9.7	9.5	+1 59	+21.6		48	119	11.8		−0 39	+12.0	
19	66	9.9	9.5	+0 47	+ 3.9		49	119	11.8		+0 19	− 0.6	
20	69	10.0	9.5	+1 48	+16.6		50	120	11.9		−0 26	− 8.7	
21	70	10.0	9.5	+1 48	−20.5		51	124	12.0		−0 8	+ 5.7	
22	73	10.1		+0 51	+ 8.0		52	126	12.1		+0 40	− 0.1	
23	77	10.3		−0 2	+12.6		53	127	12.1		−0 43	− 9.3	
24	77	10.3		+0 28	7.6		54	129	12.2		0 0	+ 2.1	Ch. 12^M
25	81	10.4		−0 57	− 8.8		55	132	12.3		+0 37	− 3.1	
26	84	10.5		−1 0	− 6.7		56	136	12.5		−0 1	− 0.9	Ch. 12^M.5
27	88	10.7		−0 33	− 9.1								
28	88	10.7		−0 18	− 7.3								
29	89	10.7		+0 6	+11.9								
30	92	10.8		−0 45	− 3.1								

* 42 + 45 = BD. + 23° 1599, 9^M.5? − 27^s, + 12′.2.
BD. + 22° 1579, 9^M.5, = + 16^s, − 8′.9 nunquam visa.

$$M = 8.4 + 0.037\,(G - 26.0).$$

V Geminorum

$7^h\,15^m\,2^s$ (1855.0) $+13^\circ\,21'.9$

Max. = 2 407 754^d (8. Febr. 1880) + 276^d E.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	7.9	7.8	$-1^m 49^s$	$+\ 3'.3$	
2	5	8.1	8.0	−2 8	− 1.5	
3	8	8.3	8.4	+0 37	− 7.3	
4	12	8.5	8.8	−1 50	−15.3	
5	20	8.8	9.1	−1 55	− 2.9	
6	22	8.9	9.0	−0 18	+14.7	
7	27	9.2	9.5	−0 38	+ 2.1	
8	28	9.2	9.5	+1 34	+ 0.3	
9	30	9.3	9.3	−1 16	+18.3	
10	32	9.4	9.5	−1 12	−10.2	
11	33	9.4		−0 58	+ 3.9	
12	34	9.4	9.5	−0 59	+14.7	
13	34	9.5		+1 5	−14.1	
14	34	9.5	9.4	+0 19	− 1.5	var.?
15	35	9.5	9.4	−1 43	+24.3	
16	38	9.6		−0 45	+ 3.6	BD.+13°1648? $9^M.5$
17	38	9.6	9.5	+1 32	+14.7	
18	43	9.9		+1 47	−11.7	
19	43	9.9	9.5	−1 17	+26.1	
20	46	10.0	9.5	+1 12	− 7.2	
21	46	10.0	9.5	−0 8	−20.7	
22	48	10.1	9.5	−0 19	+28.1	
23	50	10.2		+1 0	+13.2	
24	50	10.2	9.5	+1 28	−16.2	
25	52	10.3		+1 1	+ 2.9	
26	53	10.3		−0 33	−14.3	
27	55	10.4		+0 28	− 5.9	
28	56	10.5		−0 20	+ 6.0	
29	57	10.5		−0 44	−27.3	
30	59	10.6		−0 51	+10.8	
31	59	10.6	9.5	−0 49	−23.4	
32	59	10.6		+0 33	+12.6	
33	62	10.7		+0 43	+ 7.8	
34	63	10.8		−0 41	− 2.7	
35	65	10.8		+0 36	+ 6.3	
36	(66)	10.9	9.5	$-0^m 49^s$	$-24'.6$	
37	66	10.9		+0 1	− 0.9	
38	71	11.1		+0 56	+ 5.4	
39	71	11.1		−0 38	− 0.9	
40	72	11.2		−0 32	− 2.6	
41	72	11.2		+0 49	+14.1	
42	72	11.2		−0 11	− 9.9	
43	74	11.3		−0 59	− 6.3	
44	74	11.3		+0 51	− 8.2	
45	77	11.4		+0 37	− 9.6	
46	80	11.5		−0 55	− 6.0	
47	81	11.5		+0 1	− 2.7	
48	83	11.7		−0 37	+11.7	
49	83	11.7		−0 24	+12.0	
50	85	11.7		−0 18	− 6.9	
51	85	11.7		+0 21	− 9.9	
52	86	11.8		−0 23	− 7.2	
53	87	11.8		+0 21	− 5.4	
54	90	12.0		+0 31	+ 2.4	
55	91	12.0		−0 11	−12.6	
56	93	12.1		−0 52	− 0.9	
57	93	12.1		+0 44	− 3.3	
58	93	12.1		0 0	+ 2.9	
59	95	12.2		−0 3	−13.8	
60	97	12.3		−0 17	−10.8	
61	99	12.4		+0 15	− 6.8	
62	99	12.4		+0 20	+ 2.7	
63	99	12.4		0 0	+ 1.5	
64	100	12.4		−0 36	− 6.6	
65	101	12.5		+0 31	+ 6.0	
66	101	12.5		+0 21	+ 3.3	
67	107	12.7		−0 29	− 4.2	
68	109	12.8		−0 7	− 3.3	
69	114	13.1		−0 7	− 0.9	

$$M = 8.2 + 0.045\ (G - 6.1).$$

S Canis Minoris

$7^h\ 24^m\ 51^s$ (1855.0) $+8^0\ 37'.4$

Max. = 2 401 629^d (3. Maii 1863) + 330^d.3 E (Inaequalitas periodica).

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1	0	8.2	7.8	$-1^m\ 47^s$	$+13'.9$	
2	9	8.5	8.5	+0 3	+20.4	
3	14	8.6	8.8	+0 29	−20.7	
4	18	8.7	9.0	+1 15	− 4.8	
5	22	8.9	8.6	−1 41	−24.6	
6	23	8.9	8.8	−1 6	−12.3	
7	26	9.0	9.0	+1 12	−23.1	
8	30	9.1	9.3	+0 47	−21.0	
9	30	9.1	9.5	+0 20	+ 5.1	
10	33	9.2		+0 17	−21.3	
11	35	9.2	9.5	+0 19	−24.6	
12	38	9.3	9.5	−1 7	+10.2	
13	39	9.3	9.2	−0 52	− 9.9	
14	39	9.3	9.5	+1 23	−29.0	
15	40	9.4		+0 29	−18.3	
16	41	9.4	9.3	−0 25	+ 3.6	
17	43	9.4	9.5	−0 32	+26.4	
18	44	9.5		−0 22	− 3.6	
19	45	9.5	9.5	+0 6	−14.7	
20	45	9.5	9.5	+1 31	+22.2	
21	46	9.5	9.5	+0 6	−15.9	
22	49	9.6	9.5	+1 38	+ 2.7	
23	50	9.7		−0 36	+ 5.4	
24	50	9.7		+1 27	+ 1.5	
25	51	9.7		−0 31	− 7.2	
26	53	9.7	9.5	+0 29	−12.3	
27	54	9.8	9.5	+1 4	− 2.7	
28	55	9.8		+0 18	−12.6	
29	56	9.8		−0 47	−14.7	
30	58	9.9		−0 18	− 8.1	
31	60	9.9		+0 58	+11.7	
32	63	10.0		+0 53	+ 2.2	
33	63	10 0		+0 56	−13.2	
34	65	10.1		−0 14	+ 3.3	
35	65	10.1		−0 25	−12.6	
36	67	10.2		$+0^m\ 41^s$	$+11'.7$	
37	69	10.2		+0 25	+12.9	
38	72	10.3		+0 7	− 6.6	
39	73	10.3		+0 50	−12.9	
40	74	10.3		0 0	−12.9	
41	74	10.3		+0 44	− 3.0	
42	75	10.4		+0 54	− 9.0	
43	75	10 4		−0 23	0.0	
44	77	10.4		−0 44	− 9.0	
45	77	10.5		−0 39	− 7.8	
46	79	10.5		−0 4	+11.7	
47	80	10.5		+0 46	+14.1	
48	80	10.5		+0 8	−12.3	
49	83	10.6		+0 4	− 2.1	
50	86	10.7		+0 52	+ 9.0	
51	90	10.8		−0 43	+ 9.9	
52	92	10.9		+0 17	− 7.8	
53	94	10.9		+0 5	+13.5	
54	95	11.0		−0 27	− 3.0	
55	95	11.0		+0 28	− 2.7	
56	96	11.0		−0 6	+ 7.5	
57	97	11.0		+0 29	+ 6.6	
58	98	11.0		+0 8	+12.0	
59	98	11.1		+0 26	+13.5	
60	99	11.1		+0 13	+ 7.8	
61	99	11.1		+0 14	− 5.1	
62	100	11.1		−0 24	+ 5.4	
63	101	11.1		−0 31	+11.1	
64	101	11.1		+0 40	+ 8.4	
65	102	11.2		+0 36	+ 6.6	
66	102	11.2		+0 6	+ 8.7	
67	102	11.2		−0 36	+ 9.0	
68	102	11.2		−0 30	−12.8	
69	103	11.2		−0 19	− 3.0	
70	105	11.3		−0 15	− 6.0	

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
71	105	11.3		$-0^{m}52^{s}$	$-\ 0'.3$	
72	106	11.3		−0 3	− 9.3	
73	107	11.3		+0 10	+12.3	
74	108	11.3		−0 39	+ 6.9	
75	109	11.4		−0 57	− 9.0	
76	109	11.4		−0 14	− 1.8	
77	109	11.4		−0 25	− 9.9	
78	109	11.4		−0 14	+ 2.4	
79	110	11.4		+0 4	+ 9.3	
80	111	11.4		+0 14	−10.2	
81	113	11.5		$-0^{m}33^{s}$	$-\ 3'.6$	
82	113	11.5		−0 20	+ 4.5	
83	114	11.5		+0 10	+ 2.4	
84	115	11.6		+0 23	−10.5	
85	117	11.6		+0 7	+ 2.7	
86	118	11.6		+0 19	+10.2	
87	119	11.7		−0 20	+ 1.2	
88	124	11.8		+0 7	+ 4.9	
89	124	11.8		−0 8	+ 3.1	

$$M = 9.0 + 0.029\ (G - 27.3).$$

Series II.

T Canis Minoris

$7^h\,25^m\,56^s$ (1855.0) **$+12^\circ\,3'.0$**

Max. = 2 404 138^d (16. Mart. 1870) + 322^d.7 E (Inaequalitas periodica).

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae	Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1	0	8.3	8.3	+1^m 19^s	+ 7'.5		36	(95)	10.4		+0^m 47^s	− 8'.1	
2	3	8.3	8.8	+0 34	−13.5		37	(96)	10.4		−0 12	− 7.0	
3	7	8.4	8.4	+0 42	+ 1.5		38	97	10.4	9.5	−0 23	+ 3.0	
4	10	8.5	8.7	+0 44	− 9.6		39	98	10.4		+0 35	− 2.9	
5	13	8.6	9.0	−0 27	−17.2		40	100	10.5		−0 40	+13.7	
6	19	8.7	9.2	+1 37	+12.1		41	101	10.5		−0 35	−11.9	
7	22	8.8	8.7	+1 7	+20.4		42	104	10.6		−0 13	−13.2	
8	25	8.8	8.4	+0 34	+12.6		43	104	10.6		+0 24	+ 4.5	
9	27	8.9	8.9	+1 8	+26.6		44	106	10.6		−0 17	+14.2	
10	33	9.0	8.8	−1 38	+23.2		45	107	10.6		+0 31	−14.8	
11	35	9.0	8.8	+0 57	+10.3		46	108	10.6		−0 57	+13.1	
12	38	9.1	9.3	−1 11	− 6.7		47	109	10.7		−0 9	+ 4.0	
13	38	9.1	9.0	+0 46	− 5.7		48	111	10.7		−0 25	− 8.3	
14	39	9.1		+1 29	+ 6.0		49	111	10.7		−0 27	+12.0	
15	46	9.3	9.4	−0 31	− 3.5		50	113	10.7		+0 8	+ 9.9	
16	46	9.3	9.2	+1 4	−10.8		51	114	10.8		+0 21	− 4.0	
17	48	9.3	9.4	−1 19	− 0.3		52	114	10.8		+0 18	+ 2.2	
18	51	9.4		−0 33	−16.0		53	114	10.8		+0 29	−14.4	
19	53	9.4	9.4	−1 7	−12.6		54	116	10.8		+0 8	+13.9	
20	53	9.4	9.5	+0 42	+ 3.1		55	120	10.9		+0 22	+ 3.3	
21	58	9.6	9.5	+0 27	− 7.0		56	122	11.0		−0 20	− 3.7	
22	61	9.6	9.5	+0 22	+18.2		57	126	11.1		+0 44	− 2.7	
23	61	9.6	9.5	+1 20	+ 9.9	var.?	58	131	11.2		+0 57	+ 8.7	
24	61	9.6	9.3	−0 35	+ 9.6		59	134	11.2		−0 28	−11.6	
25	62	9.6	9.5	+1 18	− 8.7		60	136	11.3		−0 16	+10.5	
26	64	9.7		+0 49	− 6.0		61	141	11.4		−0 7	+10.8	
27	67	9.8	9.4	+0 56	+14.1		62	142	11.4		+0 13	− 9.4	
28	69	9.8	9.5	+1 22	−12.4		63	143	11.4		+0 4	+ 0.2	Sch. 12.2
29	75	9.9	9.5	−0 17	− 6.3		64	144	11.4		+0 4	+ 9.8	
30	76	10.0		−0 16	−14.2		65	146	11.5		+0 18	−10.5	
31	77	10.0	9.5	+1 2	−27.1		66	148	11.5		+0 15	− 2.1	
32	77	10.0	9.5	−0 42	− 5.3		67	151	11.6		+0 9	− 6.9	
33	83	10.1	9.4	−0 32	+ 6.2		68	158	11.8		+0 40	− 2.7	
34	94	10.3	9.5	−0 36	+ 9.0		69	(183)	(12.3)		−0 1	− 0.3	Sch. 12.7 *
35	95	10.4		−0 5	+11.7								

* 69, Δα et Δδ ex Sch. II, 40.

M = 9.0 + 0.022 (G — 33.0).

U Canis Minoris

$7^h\ 33^m\ 28^s$ (1855.0) $+8^\circ\ 42'.2$

Max. = 2 407 760^d (14. Febr. 1880) + 410^d E (Periodo irregulari).

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1	0	8.5	8.3	$+0^m\ 4^s$	$+\ 3'.0$	
2	3	8.7	8.5	−1 27	+14.1	
3	7	8.9	9.0	−0 32	+ 0.6	
4	12	9.1	9.4	+1 43	+23.6	var.?
5	12	9.2	9.3	−1 10	−13.8	
6	13	9.2	9.4	+1 17	−20.1	
7	14	9.2	9.4	+1 21	+23.6	
8	17	9.4	9.4	+0 50	−21.0	
9	20	9.5	9.3	+1 9	−25.2	
10	21	9.6	9.2	−0 7	+21.9	
11	21	9.6	9.5	+1 1	+29.6	
12	22	9.6	9.2	+1 8	−22.2	
13	24	9.7	9.5	−1 26	−20.8	
14	26	9.8	9.5	−1 17	−11.4	
15	27	9.9	9.5	−2 0	+11.7	
16	27	9.9	9.5	+1 31	+29.6	
17	28	9.9		−0 43	− 2.7	
18	32	10.1		−0 26	+ 9.0	*
19	33	10.2		−0 16	−12.0	
20	34	10.2		+0 33	− 3.6	
21	34	10.2		−0 33	+12.0	*
22	35	10.3		−0 51	+11.7	
23	35	10.3		−0 37	− 6.7	
24	39	10.5		−0 51	−12.0	
25	39	10.5		+0 22	+ 8.4	
26	43	10.7		+0 19	+14.4	
27	43	10.7		0 48	+ 6.0	
28	44	10.7		−0 25	− 3.1	
29	46	10.8		0 14	+11.7	
30	48	11.0		−0 3	− 3.3	
31	48	11.0		−0 11	+ 8.7	
32	49	11.0		+0 39	− 3.6	
33	51	11.1		−0 21	− 6.3	
34	52	11.2		+0 23	− 1.5	
35	53	11.2		−0 34	+ 8.4	
36	54	11.3		−0 17	− 5.7	
37	55	11.3		+0 28	+ 5.4	
38	55	11.3		$+0^m\ 57^s$	$-\ 0'.6$	
39	56	11.4		−0 6	−11.4	
40	59	11.5		−0 23	− 8.1	
41	59	11.6		+0 27	− 4.9	
42	60	11.6		−0 43	+15.0	
43	60	11.6		−0 46	− 4.8	
44	60	11.6		+0 13	+ 7.8	
45	60	11.6		+0 16	+ 8.7	
46	61	11.6		−0 37	−10.2	
47	62	11.7		−0 26	− 6.0	
48	64	11.8		−0 37	−11.4	
49	65	11.8		−0 32	+ 7.2	
50	65	11.8		+0 37	+ 8.1	
51	69	12.0		+0 15	−12.3	
52	71	12.1		+0 42	+ 9.3	
53	71	12.1		+0 19	− 9.6	
54	71	12.2		+0 48	−12.3	
55	72	12.2		−0 16	+ 2.4	
56	72	12.2		−0 3	− 3.9	
57	74	12.3		+0 19	+12.3	
58	75	12.3		−0 14	+14.1	
59	76	12.4		−0 16	+ 5.4	
60	77	12.4		+0 15	+ 1.2	
61	79	12.5		+0 26	+ 9.9	
62	80	12.6		+0 38	+10.5	
63	80	12.6		−0 9	+ 6.0	
64	82	12.7		+0 4	+ 0.6	
65	82	12.7		−0 12	+ 1.2	
66	83	12.8		+0 29	+10.2	
67	84	12.8		−0 11	+14.7	
68	87	13.0		+0 33	+ 6.3	
69	88	13.0		−0 9	+ 2.1	
70	91	13.2		+0 26	+ 5.7	
71	91	13.2		+0 15	− 0.6	
72	93	13.3		+0 33	+11.7	

* ½ (18 + 21) = BD. + 8° 1847, $9^M.5$.

M = 9.7 + 0.051 (G − 23.1).

S Geminorum

$7^h\ 34^m\ 20^s$ (1855.0) $+23^{\circ}\ 47'.2$

Max. = 2 397 546^d (27. Febr. 1852) + 294^d E.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6.0	$-2^m\ 3^s$	$-26'.0$	PD. $6^M.1$
2	0	7.7	7.0	+1 30	− 6.0	PD. 7.6
3	4	7.8	7.8	−0 56	−31.1	
4	5	7.9	7.5	+2 1	−25.2	PD. 7.8
5	7	8.0	8.3	−1 18	+ 4.2	
6	15	8.3	8.5	−1 25	−21.6	
7	16	8.3	8.3	0 0	−10.2	
8	20	8.5	8.8	+0 26	+22.8	
9	25	8.7	8.5	+0 9	+ 5.8	
10	31	8.9	8.8	−1 36	−15.3	
11	32	9.0	8.6	+0 32	+20.4	
12	33	9.0	8.8	−1 6	−24.1	
13	33	9.0	9.4	−1 27	+ 5.1	
14	36	9.1	9.0	−1 24	+ 9.9	
15	46	9.6	9.5	+0 17	− 1.8	
16	49	9.7	9.5	+1 44	−17.3	
17	51	9.7	9.4	+1 9	+29.8	
18	53	9.8	9.5	−1 25	−14.7	
19	58	10.0	9.5	−1 3	− 8.7	
20	58	10.0	9.5	+1 29	+26.8	
21	59	10.0	9.5	+1 21	+10.2	
22	61	10.2		+0 33	+27.6	
23	62	10.2		+0 58	+ 5.9	
24	63	10.2	9.4	+2 0	− 9.5	
25	63	10.2		−0 43	− 1.2	
26	63	10.2		+0 34	+14.4	
27	66	10.4		+0 46	+ 6.8	
28	68	10.4		−0 19	+ 2.1	
29	68	10.4	9.5	+0 54	+22.2	
30	71	10.5		−0 24	+12.7	
31	72	10.6	9.5	−0 39	+24.1	
32	73	10.6	9.5	−0 34	−10.2	
33	75	10.7	9.5	$+1^m\ 38^s$	$+24'.2$	
34	75	10.7		+0 54	− 2.7	
35	76	10.7	9.5	−1 20	+18.1	
36	77	10.8		−0 47	+12.6	
37	78	10.8		+0 41	− 0.3	
38	79	10.8		−0 8	−14.4	
39	79	10.9		+0 27	+ 3.3	
40	82	11.0		+0 4	− 0.3	Sch. 11·12^M
41	83	11.0		−0 8	−12.6	
42	84	11.1		+0 23	+ 8.4	
43	84	11.1		−0 16	+12.3	
44	86	11.1		−0 54	− 2.7	
45	88	11.2		+0 3	+11.1	
46	88	11.2		−0 13	+12.6	
47	89	11.2		−0 34	− 2.8	
48	90	11.3		−0 38	− 7.8	
49	91	11.3		−0 28	+ 9.0	
50	93	11.4		+0 30	+ 3.0	
51	94	11.4		−0 26	+11.1	
52	94	11.5		−0 34	− 8.4	
53	96	11.5		−0 34	+ 2.4	
54	97	11.6		−0 33	+ 9.3	
55	98	11.6		+0 41	− 6.0	
56	101	11.7		+0 6	−12.9	
57	104	11.9		+0 23	− 9.0	
58	107	12.0		+0 29	− 4.0	
59	108	12.0		+0 8	+ 4.8	
60	111	12.1		−0 2	− 9.5	
61	114	12.2		+0 31	+ 9.1	
62	122	12.6		−0 4	+ 1.0	Sch. 12^M

$$M = 9.0 + 0.040\ (G - 32.5).$$

T Geminorum

$7^{h}\,40^{m}\,36^{s}$ (1855.0) $+24^{0}\,5'.5$

Max. = 2 396 369^{d}.5 (7. Dec. 1848) + 288^{d}.1 E.

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1	0	7.6	7.4	$+1^{m}21^{s}$	$+26'.0$	PD. $7^{M}.4$
2	3	7.7	7.8	−2 8	− 4.7	
3	8	7.9	8.0	+0 17	+32.3	
4	15	8.3	8.2	+1 27	+ 3.1	
5	19	8.5	8.8	+0 14	−27.3	
6	22	8.6	8.7	−2 5	− 0.8	
7	24	8.7	8.6	−0 38	+21.0	
8	31	9.0	9.1	−1 40	+ 2.6	
9	34	9.2	9.2	−1 6	+17.7	var.?
10	36	9.3	9.1	+0 33	+17.4	
11	40	9.5	9.5	−1 56	−21.3	
12	41	9.5	9.3	+1 58	+ 2.9	
13	43	9.6	9.5	−0 31	−17.4	
14	45	9.7	9.5	−1 36	−12.9	
15	47	9.8	9.4	+0 25	−15.3	
16	50	9.9	9.5	+1 6	+ 0.9	BD. $41^{m}49^{s}.7$
17	52	10.0	(9.5)	−0 43	− 8.4	BD. $40^{m}4^{s}.9$
18	57	10.3		−0 26	−15.0	
19	59	10.4		+0 8	− 5.3	
20	60	10.4		−0 48	+ 8.7	
21	60	10.4	9.5	+0 30	− 5.3	
22	63	10.6		−0 11	+ 2.4	Ch. 11^{M}.
23	67	10.7		+0 50	+ 6.6	
24	67	10.7		−0 50	− 3.3	
25	69	10.8		0 0	−14.4	
26	71	10.9		−0 3	+15.1	
27	71	10.9		+0 34	+ 8.4	
28	72	11.0		$+0^{m}34^{s}$	$-8'.1$	
29	74	11.0		−0 36	−10.5	
30	75	11.1		−0 8	+12.6	
31	77	11.2		−0 41	− 0.3	
32	77	11.2		−0 2	− 9.3	
33	80	11.3		−0 41	−11.7	
34	80	11.4		+0 26	−11.1	
35	82	11.4		−0 36	+ 6.3	
36	83	11.5		−0 33	−18.6	var.?
37	83	11.5		−0 11	− 5.8	
38	86	11.6		−0 38	− 2.1	
39	87	11.7		+0 5	+ 5.8	
40	87	11 7		+0 51	− 8.4	
41	88	11.7		−0 1	− 1.5	Ch. $12^{M}.5$
42	90	11.8		+0 47	− 6.0	
43	90	11.8		+0 6	+14.7	
44	91	11.8		+0 54	−12.0	
45	93	12.0		+0 6	− 3.1	
46	93	12.0		+0 46	−12.9	
47	94	12.0		+0 39	+ 7.8	
48	95	12.1		+0 32	+11.0	
49	96	12.1		+0 22	+13.8	
50	98	12.2		+0 9	+11.4	
51	99	12.2		+0 46	+ 8.1	
52	101	12.3		+0 45	+ 2.7	

M = 8.8 + 0.047 (G — 26.0).

U Geminorum

$7^{h}\,46^{m}\,30^{s}$ (1855.0) $+22^{\circ}\,22'.7$

Max. = 2413495^{d} (28. Oct. 1895) + 86^{d}.3 E (Periodo irregulari*).

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8.6	8.2	$+0^{m}\;4^{s}$	$-19'.8$	
2	5	8.8	9.2	+2 13	−17.7	
3	6	8.8	8.7	+1 26	− 6.9	Σ 1158; var.?
4	10	9.0	9.3	+1 19	− 9.6	
5	14	9.1	8.9	−0 41	+34.8	
6	17	9.2	9.0	+1 18	−28.2	
7	21	9.4		+1 18	−27.9	
8	23	9.4		−0 45	+35.7	
9	26	9.6		−1 10	+14.5	
10	26	9.6	9.4	+1 29	+19.5	
11	26	9.6	9.3	−0 46	+16.7	
12	29	9.7		+0 57	+23.2	
13	30	9.7	9.3	−0 42	+23.1	
14	32	9.8		+0 49	−28.8	**
15	37	10.0		−1 29	−28.3	
16	38	10.0		−0 27	− 9.9	
17	43	10.2		+0 56	−22.8	**
18	45	10.3		+0 2	+ 5.4	W. $10^{M}.9$, f***
19	49	10.5		+0 59	+12.0	
20	50	10.5		+0 55	+23.3	
21	51	10.5		+0 37	+14.0	
22	53	10.6		+0 25	+ 9.1	
23	57	10.8		$+0^{m}\;7^{s}$	$-3'.8$	W. $10^{M}.7$. g
24	63	11.0		+0 6	+ 4.4	W. $11^{M}.3$, e; Sch. II. var.
25	66	11.1		+0 18	− 0.1	W. $11^{M}.4$. d
26	71	11.3		−0 45	− 2.7	
27	74	11.5		−0 33	+11.7	
28	79	11.6		+0 15	− 6.7	
29	80	11.7		−0 48	− 6.5	
30	84	11.8		+0 57	−10.2	
31	86	11.9		−0 43	+ 2.3	W. $11^{M}.7$. c
32	87	12.0		+0 45	− 3.5	
33	92	12.1		+0 4	− 2.9	W. $12^{M}.2$, b
34	94	12.2		−0 1	+ 9.3	
35	95	12.3		+0 37	− 9.6	
36	96	12.3		−0 33	− 9.3	
37	100	12.5		−0 17	−12.4	
38	103	12.6		−0 22	−14.2	
39	103	12.6		−0 2	+ 2.1	W. $12^{M}.6$. a
40	107	12.7		+0 3	+ 9.3	
41	108	12.8		+0 11	+ 7.5	

* Lux maxima apparet subito, temporibus incertis a 2 usque ad 5 menses.

** $\frac{1}{2}(14+17)$ = BD. $+21^{\circ}$ 1716, $9^{M}.5$.

*** W = Winnecke (A. N. Bd. 47, No. 1120).
BD. $+22^{\circ}$ 1812, $9^{M}.5$ delenda.

Sch. indicat stellam tenuissimam, quae proxime sequitur Variabilem versus meridiem.

$$M = 8.9 + 0.039\,(G - 8.7).$$

R Cancri

$8^h\ 8^m\ 34^s$ (1855.0) **$+12^\circ\ 10'.1$**

Max. = 2 397 600^d.1 (21. Apr. 1852) + 352^d.81 E + 0^d.207 E^2.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	7.8	7.3	$-2^m 56^s$	$-52'.7$	PD. $7^M.4$	26	61	10.4		$+0^m 52^s$	$+9'.6$	
2	8	8.1	8.0	−0 59	−17.7		27	66	10.6		+0 53	− 3.1	
3	11	8.2	8.2	+0 34	−22.8		28	68	10.7		+0 5	+ 0.6	
4	15	8.4	8.5	+1 35	− 3.8		29	74	11.0		+0 49	−12.9	
5	22	8.7	8.8	+1 41	−37.1		30	75	11.0		−0 53	+12.6	
6	28	9.0	9.0	+0 4	+24.0		31	78	11.2		−0 55	+ 6.3	
7	32	9.2	9.2	+0 34	+18.6		32	81	11.3		+0 46	−10.6	
8	37	9.4	9.3	+0 10	−28.4		33	82	11.3		−0 21	+ 0.3	
9	42	9.6	9.5	−0 44	+24.7		34	88	11.6		−1 1	+ 3.9	
10	43	9.6	9.5	+1 6	− 0.2		35	90	11.7		+0 57	−11.1	
11	46	9.7	9.5	−1 44	+20.3		36	91	11.7		+0 1	− 5.1	
12	46	9.8	9.5	−1 39	+24.0		37	92	11.7		−0 59	− 5.7	
13	46	9.8	9.5	+0 8	−24.9		38	93	11.8		−0 20	−11.8	
14	(47)	9.8		+1 25	+14.3	var.?	39	94	11.8		+0 11	− 5.7	
15	47	9.8	9.5	+1 28	+20.9		40	95	11.9		−0 46	+ 0.6	
16	50	9.9	9.5	+1 16	−25.1		41	100	12.1		+0 36	+ 7.2	
17	50	10.0	9.4	+1 11	+21.3		42	102	12.2		+0 9	− 9.3	
18	51	10.0	9.5	+0 13	−26.6		43	104	12.3		+0 46	+ 3.0	
19	52	10.0	9.5	+0 7	− 4.9		44	105	12.3		+0 30	−11.4	
20	52	10.0	9.5	+0 14	−23.6		45	110	12.5		+1 2	− 2.0	
21	53	10.0	9.5	+1 18	−20.7		46	110	12.5		−0 2	+12.3	
22	56	10.2		+0 49	+ 2.7		47	110	12.6		+0 23	−12.0	
23	59	10.3		−0 23	−10.8		48	114	12.7		+0 26	− 2.4	
24	61	10.4		−0 11	+12.9								
25	61	10.4		+0 44	−12.2								

Ch. 12^M, -4^s, $-1'.5$, invisib.

M = 8.1 + 0.044 (G − 7.8).

V Cancri

$8^h\ 13^m\ 27^s$ (1855.0) $+17^\circ\ 44'.5$

Max. = 2 404 568^d (20. Maii 1871) + 272^d.1 E.

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1			6.2	$+4^m\ 11^s$	−12'.4	PD. 6^M.4, d^2 Cancri
2	0		7.0	+3 3	− 4.8	PD. 7.2
3	9	8.2	8.3	+1 16	+23.4	
4	13	8.3	8.2	+0 11	+19.8	
5	14	8.4	8.4	+1 5	+21.0	
6	19	8.6	8.7	+1 31	−22.8	
7	22	8.7	9.0	−0 53	−20.1	
8	26	8.9	9.1	−0 15	+23.4	
9	29	9.1	9.2	+1 25	−27.6	
10	31	9.1	9.2	+0 13	+15.1	
11	36	9.4	9.4	+1 37	+12.0	
12	36	9.4	9.4	+1 20	+15.6	
13	39	9.5	9.4	−1 30	−16.8	
14	41	9.6	9.5	−0 29	+22.3	
15	44	9.7	9.5	+1 33	− 6.3	
16	45	9.7		−0 42	+12.0	
17	47	9.8	9.5	+1 37	+22.5	
18	48	9.9	9.5	−0 47	− 3.9	
19	49	9.9	9.5	−0 59	+29.6	
20	49	9.9	9.5	+0 26	+29.3	
21	50	10.0		+1 2	−12.7	
22	52	10.0		+0 30	+14.7	
23	54	10.1		+0 3	+23.5	
24	57	10.2		+0 18	+ 0.4	Sch. 10.11^M
25	59	10.3		+0 6	+ 0.1	Sch. 11^M
26	62	10.5		+0 37	− 6.3	
27	64	10.5		−0 36	+ 0.9	

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
28	69	10.8		$+0^m\ 18^s$	−12'.9	
29	69	10.8		−0 27	+12.9	
30	74	11.0		−0 58	+ 7.2	
31	76	11.0		−0 47	+ 6.6	
32	76	11.0		+0 47	−14.4	
33	81	11.3		−0 14	+12.0	
34	82	11.3		+1 1	− 0.9	
35	85	11.4		−0 55	+11.4	
36	87	11.5		−0 1	+10.8	
37	88	11.6		−0 54	+13.2	
38	90	11.6		+0 5	+ 8.1	
39	91	11.7		+0 26	+ 8.1	
40	94	11.8		−0 38	− 7.8	
41	96.	11.9		+0 5	+ 9.9	
42	97	12.0		+0 42	− 1.5	
43	98	12.0		+0 15	− 5.4	
44	98	12.0		−0 19	− 8.4	
45	101	12.1		−0 13	− 8.7	
46	102	12.2		+0 10	− 2.0	
47	105	12.3		−0 40	+14.4	
48	105	12.3		−0 37	− 3.3	
49	108	12.4		+0 31	+ 6.6	
50	109	12.5		+0 33	− 0.6	
51	117	12.8		+0 7	+ 2.4	

$$M = 8.3 + 0.043\ (G - 11.7).$$

Series II.

U Cancri

$8^h\ 27^m\ 28^s$ (1855.0) $+19^\circ\ 23'.5$

Max. = 2 397 962^d (18. Apr. 1853) + 305^d.0 E.

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae	Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1	0		7.2	+2^m 0^s	+22'.6	PD. 6^M.9	21	92	10.0	9.5	−0^m 41^s	−28'.7	
2	10	7.9	7.8	−1 22	−30.1		22	92	10.0	9.5	−1 10	+ 2.1	
3	34	8.5	8.5	+1 2	− 0.6		23	95	10.0	9.5	+1 48	−14.4	
4	34	8.5	8.5	+1 33	− 1.3		24	98	10.1		+1 37	−11.9	
5	41	8.7	8.8	+0 55	−25.4		25	105	10.3	9.5	+2 2	−12.7	
6	51	8.9	9.0	+0 44	+ 4.3		26	110	10.4		−0 44	− 9.1	
7	55	9.0	9.2	+1 42	+16.6		27	111	10.4		−0 7	+23.2	
8	58	9.1	9.2	−0 18	−29.7		28	113	10.5	9.5	−0 36	+17.3	
9	61	9.2	9.2	−1 46	+22.4		29	114	10.5	9.5	+1 25	−28.5	
10	62	9.2	9.3	+2 9	−11.9		30	124	10.8		+0 32	−12.9	
11	65	9.3	9.2	+1 56	+14.8		31	132	11.0		+0 16	−11.7	
12	67	9.3	9.5	+0 48	− 2.4		32	135	11.0		−0 49	− 8.7	
13	71	9.4	9.5	−1 37	− 7.3		33	138	11.1		−0 38	+ 3.1	
14	74	9.5	9.3	−0 37	+15.2		34	139	11.1		+0 12	− 4.8	
15	76	9.6	9.5	+0 18	−25.4		35	143	11.2		−0 36	− 6.3	
16	81	9.7	9.3	+0 2	+16.7		36	166	11.8		−0 12	− 7.6	
17	81	9.7	9.5	−1 8	−13.2		37	171	11.9		+0 17	+13.6	
18	87	9.8	9.5	−1 13	− 5.0		38	180	12.2		−0 45	+ 3.1	
19	88	9.9		−0 33	−21.7		39	185	12.3		+0 37	+ 6.7	
20	89	9.9	9.5	+1 16	+ 8.2		40	196	12.6		+0 26	+11.5	

Ch. 11^M, — 3^s, + 7' invisib.

BD. + 19° 2041, 9^M.5, — 29^s, — 6'.8 delenda?

M = 8.5 + 0.025 (G — 33.5).

Series II.

S Hydrae

$8^h\,46^m\,0^s$ (1855.0) $+3^\circ\,36'.8$

Max. = 2 399 359^d (13. Febr. 1857) + 257^d.0 E (Inaequalitas periodica).

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1			7.3	+3^m 41^s	−31′.8	PD. 7^M.2
2	0	8.5	8.1	+1 37	−26.1	
3	5	8.6	8.7	+0 48	+ 3.9	
4	8	8.7	8.6	+0 20	−33.7	
5	11	8.9	9.0	−0 42	− 1.5	
6	14	9.0	8.8	−1 38	− 3.0	
7	20	9.2	9.3	−0 32	+20.4	BD. 55′.1
8	20	9.2	9.2	+1 7	−27.0	
9	25	9.3	9.5	−1 17	−18.6	
10	30	9.5	9.5	−1 7	− 7.2	
11	33	9.6	9.3	+1 29	− 4.5	
12	34	9.7		−1 17	+29.6	*
13	38	9.8		−0 35	+24.0	
14	40	9.9	} 9.5	−0 30	+23.7	
15	41	9.9		−0 57	− 7.2	
16	41	9.9		+0 55	+ 7.5	
17	42	9.9	9.5	+1 42	+27.3	
18	44	10.0	9.5	+1 41	−12.0	BD. 47^m 37^s.3
19	46	10.1	9.5	+1 23	+26.5	
20	49	10.2	9.5	+0 10	−24.6	
21	53	10.3	9.5	−0 8	−18.9	
22	55	10.4		−0 49	− 8.7	
23	57	10.5		−0 6	−14.4	
24	60	10.6		+1 21	− 8.1	
25	62	10.6		−0 46	− 9.0	
26	64	10.7		−0 44	− 3.6	
27	64	10.7		−0 44	+ 7.8	
28	65	10.7		+0 27	+15.0	
29	68	10.8		+0 9	+ 1.0	
30	68	10.8		+0 47	+ 5.1	
31	69	10.9		+0 1	+14.1	
32	71	10.9		−0 16	+ 0.3	
33	71	11.0		−0^m 4^s	+ 7′.0	
34	74	11.1		+0 41	+12.1	
35	76	11.1		−0 15	− 0.3	Ch. 11^M?
36	76	11.1		−0 52	− 9.6	
37	78	11.2		−0 3	− 9.0	
38	78	11.2		+0 23	−11.7	
39	79	11.2		−0 55	+12.9	
40	79	11.2		−0 23	− 4.8	
41	79	11.2		−0 42	− 3.3	
42	81	11.3		−0 53	+ 2.4	
43	82	11.3		−0 2	− 8.7	
44	83	11.4		+0 16	− 4.5	
45	84	11.4		−0 45	+13.5	
46	86	11.5		−0 15	−10.8	
47	87	11.5		−0 51	+ 0.9	
48	88	11.5		−0 22	+ 6.9	
49	91	11.7		+0 13	+ 6.0	
50	91	11.7		−0 12	− 4.2	
51	93	11.7		−0 12	+ 8.7	
52	94	11.7		+0 20	+12.6	
53	95	11.8		+0 24	+ 6.3	
54	96	11.8		+0 12	+ 7.8	
55	98	11.9		−0 22	+ 3.0	
56	98	11.9		+0 27	+ 3.3	
57	99	11.9		+0 12	− 0.6	
58	100	12.0		+0 49	+12.3	
59	101	12.0		+0 30	+10.8	
60	103	12.1		+0 4	+ 0.6	Ch. 12^M
61	104	12.1		−0 12	+ 9.9	
62	104	12.1		+0 25	− 6.3	

* 12 = BD. + 4° 2061, 9^M.3, − 1^m 20^s, + 23.′7?

$M = 9.1 + 0.035\,(G - 18.0)$.

3567

V Leonis

$9^h\ 51^m\ 57^s$ (1855.0) $+21°\ 57'.3$

Max. = 2 408 538^d (2. Apr. 1882) + 273^d.7 E.

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae	Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1			6.7	−0^m 34^s	+ 3'.4		18	77	11.3		−0^m 4^s	−15'.4	
2	0	8.2	8.5	−1 58	−16.9		19	84	11.6		−0 4	+ 5.3	
3	12	8.7	8.7	+0 32	+11.8		20	87	11.7		−0 43	+ 4.7	
4	16	8.9	9.0	+1 19	−16.0	var.?	21	90	11.8		−0 3	− 0.7	Ch. $11^M.5$ (±)
5	18	8.9	9.1	+1 2	+19.1		22	93	11.9		+0 6	+14.0	
6	22	9.1	9.3	+1 34	+ 8.5		23	94	12.0		−0 13	+14.0	
7	25	9.2	9.2	−0 39	−13.9		24	97	12.1		−0 30	+ 6.2	
8	28	9.3	9.1	+0 6	+20.7		25	99	12.1		+0 25	− 4.3	
9	29	9.4	9.5	−1 31	+ 3.0		26	101	12.2		−0 37	+ 8.6	
10	36	9.7	9.5	+0 29	+24.0		27	104	12.3		+0 13	−10.6	
11	39	9.8	9.5	+0 20	−24.5		28	106	12.4		−0 33	+ 5.6	
12	39	9.8	9.5	−0 15	+10.1		29	107	12.5		−0 52	− 1.0	
13	51	10.3	9.4	+1 30	+22.1		30	110	12.6		+0 19	+ 2.0	
14	58	10.5		+0 27	+16.2		31	114	12.8		−0 2	+11.3	
15	64	10.8		−0 56	+11.2		32	115	12.8		+0 52	+ 2.3	
16	68	10.9		+0 26	+13.7		33	119	12.9		−0 14	− 1.0	
17	69	11.0		+0 24	− 7.9		34	119	13.0		+0 56	+ 8.0	

$M = 9.0 + 0.040\ (G - 19.8)$.

Series II.

3890

W Leonis

$10^h\,45^m\,58^s$ (1855.0) $+14^\circ\,29'.2$

Periodus incognita.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8.0	8.0	$-1^m 53^s$	$-\ 9'.0$	
2	7	8.2	8.0	−2 6	− 3.0	
3	24	8.8	9.1	−1 9	+21.6	
4	30	9.0	9.0	−1 29	+ 7.9	
5	33	9.1	9.1	+1 12	−26.4	
6	39	9.3	9.3	−0 55	+13.5	
7	44	9.5	9.5	+1 49	+12.3	
8	45	9.5	9.5	+2 7	− 2.9	
9	50	9.7	9.5	−0 24	−14.4	
10	51	9.7		−0 11	−17.4	*
11	52	9.7	9.5	+1 28	− 3.0	
12	52	9.7		−0 18	− 4.2	
13	53	9.8		+1 16	+18.6	
14	53	9.8	9.5	−1 58	−24.6	
15	57	9.9		+0 55	+21.6	
16	58	9.9		−0 52	−12.1	
17	60	10.0		+1 34	+24.0	
18	62	10.1	9.5	$+1^m\ 9^s$	$-\ 0'.7$	
19	69	10.3		−0 9	−17.1	*
20	79	10.6		+0 57	− 5.7	
21	80	10.7		−0 28	+14.1	
22	81	10.7		+0 51	+ 2.7	
23	83	10.8		+0 34	− 6.6	
24	87	10.9		+0 16	− 2.1	
25	88	10.9		−0 55	− 9.3	
26	93	11.1		−0 42	+ 9.6	
27	97	11.2		+0 16	− 8.1	
28	99	11.3		−1 0	−13.0	
29	102	11.4		−0 13	+ 5.7	
30	104	11.5		−0 34	+ 4.2	
31	107	11.6		−0 23	− 8.7	
32	109	11.6		+0 11	+ 3.1	

* (10 + 19) = BD. $+14^\circ$ 2312, $9^M.4$.

$$M = 9.0 + 0.033\ (G - 30.0).$$

Series II.

S Leonis

$11^h\ 3^m\ 21^s$ (1855.0) $+6^\circ\ 14'.9$

Max. $= 2\,400\,746^d$ (1. Dec. 1860) $+ 190^d.0\ E + 25^d \sin (10^\circ E + 60^\circ)$.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8.5	8.5	$-2^m\ 5^s$	$-28'.1$		13	44	10.1		$-0^m\ 3^s$	$+15'.3$	
2	4	8.6	8.8	−0 58	+18.3		14	49	10.2		−0 50	+ 8.4	
3	8	8.8	9.0	−1 53	−24.2		15	53	10.4		−0 49	+ 3.0	
4	14	9.0	9.0	+0 32	+29.9		16	59	10.6		−1 2	+ 0.3	
5	16	9.1	9.0	+0 56	+21.7		17	68	10.9		+0 29	+11.7	
6	20	9.2	9.0	+0 30	−21.6		18	69	11.0		−0 28	− 6.6	
7	23	9.3	9.3	+1 52	− 2.4		19	74	11.2		−0 51	+ 0.9	
8	26	9.4	9.5	+2 2	−30.0		20	81	11.4		−1 0	+ 8.7	
9	30	9.6	9.5	−0 48	+12.3		21	84	11.5		−0 5	−14.1	
10	32	9.6		0 0	+19.4		22	92	11.8		+0 5	− 1.0	Sch. 11·12M
11	34	9.7		+1 1	+ 9.0		23	95	11.9		+0 31	− 3.6	
12	40	9.9	9.5	+1 9	+ 4.2		24	100	12.1		−0 8	− 8.1	

$$M = 9.0 + 0.036\ (G - 14.2).$$

Series II.

R Comae

11^h 56^m 49^s (1855.0) **+19° 35′.4**

Max. = 2 399 294^d (10. Dec. 1856) + 361^d.8 E.

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae	Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1	0	8.2	7.5	−0^m 14^s	+ 2′.3	PD. 8^M.0	13	104	10.4		+0^m 22^s	+ 2′.6	
2	19	8.6	8.6	−1 53	+29.8		14	107	10.5		+0 44	+11.2	
3	25	8.8	8.8	−1 42	−15.1		15	112	10.6		−0 21	+12.1	
4	36	9.0	9.3	+1 15	−12.1		16	114	10.6		+0 23	+ 2.8	
5	51	9.3	9.1	−1 34	+ 4.9		17	122	10.8		−0 25	−14.5	
6	56	9.4	9.4	+0 22	−18.4		18	126	10.9		+0 6	−13.9	
7	72	9.7	9.4	−1 44	+23.6		19	129	10.9		−0 30	−10.4	
8	78	9.9		−0 29	+12.3		20	135	11.1		+0 29	+ 8.6	
9	82	10.0		−0 32	− 4.3		Neb.				−0 5	−20.9	N. G. C. 4064
10	86	10.0		+0 47	−15.1								
11	93	10.2		−1 0	− 1.6								
12	98	10.3		+0 33	−12.1								

$$M = 8.7 + 0.021\ (G - 22.2).$$

Series II.

U Virginis

$12^h\ 43^m\ 45^s$ (1855.0) **$+6^0\ 20'.6$**

Max. $=$ 2 402 778^d.0 (25. Iunii 1866) $+$ 207^d.0 E (Inaequalitas periodica).

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6.7	$-4^m\ 3^s$	$+25'.2$	PD. $6^M.6$
2	0	8.1	8.0	$-0\ 44$	$+40.6$	
3	4	8.2	8.2	$-1\ 40$	-22.2	
4	22	8.9	9.0	$-0\ 46$	$+23.7$	
5	29	9.1	9.0	$+0\ 42$	-12.9	
6	33	9.3	9.5	$+0\ 59$	$+23.7$	
7	35	9.3	9.3	$+1\ 54$	$+18.1$	
8	39	9.5	9.5	$-0\ 52$	$+18.6$	
9	39	9.5	9.4	$-0\ 8$	-23.1	
10	49	9.9	9.5	$+0\ 9$	$-\ 6.2$	
11	51	9.9		$-0\ 9$	$-\ 0.5$	Sch. 10^M
12	53	9.9		$+0\ 42$	-12.0	
13	56	10.1	9.5	$+1^m\ 59^s$	$+29'.3$	
14	57	10.2		$-1\ 4$	$-\ 0.9$	
15	58	10.2		$+0\ 59$	$+\ 5.7$	
16	65	10.4		$+0\ 24$	$+\ 0.7$	
17	79	10.9		$+0\ 47$	$-\ 0.6$	
18	86	11.2		$-0\ 59$	$+\ 2.1$	
19	89	11.3		$-0\ 17$	$-\ 8.7$	
20	103	11.8		$+0\ 9$	$+14.1$	
21	110	12.0		$+0\ 10$	$+13.6$	

$$\mathbf{M = 9.0 + 0.036\ (G - 25.2).}$$

Series II.

5338

U Bootis

$14^h\ 47^m\ 37^s$ (1855.0) $+18^\circ\ 17'.1$

Max. $= 2\,407\,786^d$ (11. Mart. 1880) $+ 176^d.7$ E.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8.1	8.0	$+0^m\ 47^s$	$+\ 0'.3$		11	56	10.4		$+0^m\ 35^s$	$-\ 6'.0$	
2	1	8.1	7.9	$-1\ 59$	$+\ 5.4$		12	57	10.5		$-0\ 35$	$+\ 6.2$	
3	9	8.5	8.5	$-1\ 54$	$+15.4$		13	59	10.6		$-0\ 1$	$+\ 2.4$	
4	27	9.2	9.3	$-0\ 41$	$-\ 8.5$		14	63	10.7		$-0\ 35$	$+\ 2.7$	
5	31	9.4	9.5	$-1\ 3$	$-\ 8.4$		15	67	10.9		$-0\ 27$	$-\ 1.5$	
6	33	9.5	9.5	$+0\ 27$	$+14.4$		16	71	11.0		$+0\ 27$	$+\ 5.4$	
7	36	9.6	9.5	$+0\ 37$	$-\ 5.8$		17	74	11.2		$+0\ 46$	$+\ 5.3$	
8	41	9.8	9.5	$+0\ 30$	-25.2		18	80	11.4		$+0\ 25$	$+10.8$	
9	45	10.0		$-0\ 2$	$-\ 4.2$		19	85	11.6		$-0\ 11$	$+\ 8.9$	
10	47	10.1		$-0\ 10$	$+18.0$		20	(110)	12.6		$+0\ 9$	$+\ 8.7$	

$$M = 8.5 + 0.041\ (G - 9.3).$$

Series II.

5501

S Serpentis

$15^h\,14^m\,52^s$ (1855.0) $+14^0\,50'.3$

Max. $= 2\,388\,815^d$ (2. Apr. 1828) $+ 365^d.4\,E + 60^d \sin(6^0.5\,E + 347^0)$.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8.0	7.3	-1^m33^s	$+14'.8$	PD. $7^M.6$
2	9	8.3	7.9	+1 41	−16.2	
3	18	8.6	8.5	+2 42	−14.4	
4	28	9.0	9.0	−1 6	+30.2	
5	37	9.3	9.3	−0 36	− 6.9	
6	42	9.5	9.5	−0 36	+25.1	
7	53	9.9		−0 31	+28.4	
8	54	9.9		−0 42	+15.6	
9	60	10.1		−0 29	+26.0	
10	75	10.7		−0 31	− 1.5	
11	76	10.7		−0 7	+ 0.3	Sch. 11^M
12	78	10.8		+0 23	+ 2.7	
13	82	10.9		−0 39	+ 8.1	
14	86	11.1		+0 24	+ 0.3	
15	91	11.3		+0 13	− 3.0	
16	105	11.7		-0^m46^s	$-11'.1$	
17	115	12.1		+0 48	+ 5.7	
18	122	12.4		−0 1	− 2.7	
19	125	12.5		−0 45	− 2.7	
20	127	12.6		+0 33	+12.0	
21	129	12.6		+0 31	− 1.2	
22	131	12.7		−0 3	− 6.9	
23	134	12.8		−0 16	− 6.3	
24	137	12.9		0 0	− 8.4	
25	143	13.1		+0 13	− 9.0	
26	147	13.3		−0 32	+ 0.9	
27	154	13.5		+0 2	+ 0.3	Sch. $12^M.7$
28	(160)	13.7		−0 46	− 0.2	

$M = 9.3 + 0.036\,(G - 36.4)$.

Series II.

R Serpentis

$15^h\,44^m\,1^s$ (1855.0) $+15^\circ\,34'.6$

Max. = 2 388 499^d (22. Maii 1827) + 357^d.0 E (Inaequalitas periodica).

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1			3.3	$-4^m\,32^s$	+18'.0	PD. 3.^{M}8, β Serp.
2	0	7.9	7.1	−4 17	+24.0	„ 7.1, 29 „
3	7	8.1	8.0	+1 19	+ 6.3	
4	7	8.1	7.5	+2 15	+17.6	„ 7.6
5	17	8.4	8.5	+1 12	−17.0	
6	24	8.6		+0 12	−27.6	*
7	29	8.8	9.0	+1 20	− 5.2	
8	36	9.0		+0 12	−27.7	*
9	40	9.1	9.5	−1 26	− 0.9	
10	51	9.5		+1 6	− 9.9	
11	57	9.7	9.5	+1 2	+22.7	
12	57	9.7		−0 8	−16.3	
13	59	9.8		+0 12	−16.1	
14	62	9.8	9.5	+1 32	−22.1	
15	68	10.0		−0 28	− 6.5	
16	70	10.1		−0 42	−11.9	
17	73	10.2		−0 38	− 3.1	
18	83	10.5		$-0^m\,43^s$	+ 7'.4	
19	87	10.6		+0 8	−14.0	
20	89	10.7		−0 49	+ 4.2	
21	97	10.9		−0 36	+ 6.2	
22	101	11.1		−0 17	+ 6.4	
23	131	11.7		−0 27	+ 2.1	
24	135	12.2		−0 31	− 9.6	
25	140	12.3		+0 23	+ 0.2	
26	141	12.4		+0 12	+11.9	
27	151	12.7		−0 5	+ 3.6	
28	153	12.7		+0 4	+14.0	
29	156	12.9		+0 5	− 7.9	
30	165	13.1		+0 9	− 5.4	
31	170	13.3		+0 4	+ 5.3	
32	172	13.4		+0 27	+ 0.1	

* (6 + 8) = BD. + 15° 2919, 9.^{M}0.

M = 8.3 + 0.032 (G — 13.6).

Series II.

5770

R Herculis

$15^h\ 59^m\ 43^s$ (1855.0) $+18^\circ\ 45'.9$

Max. $= 2\,402\,436^d$ (18. Iulii 1865) $+\ 317^d.7\,E + 20^d \sin (12^\circ E + 324^\circ)$.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6.7	$-2^m 23^s$	$-33'.6$	PD. $7^M.0$
2	0	8.3	8.0	+3 29	+ 3.5	
3	11	8.6	9.0	−0 39	+12.1	
4	17	8.7	9.0	−0 31	+ 9.9	
5	22	8.9	9.2	+0 33	−11.4	
6	26	9.0	8.9	−1 31	−17.4	
7	31	9.1	9.1	+0 36	− 2.1	
8	37	9.3	9.0	+1 28	+26.9	
9	46	9.5	9.0	+0 11	+ 7.9	
10	51	9.6	9.5	−0 47	− 6.4	
11	55	9.7		+0 13	+ 8.4	
12	58	9.8	9.4	−0 7	− 9.0	
13	58	9.8	9.5	+1 22	+ 0.1	
14	62	9.9	9.5	−0 44	+ 5.4	
15	63	9.9	9.5	+0 2	−10.2	
16	69	10.1	9.5	−1 21	+16.1	
17	76	10.3	9.5	+0 11	+17.4	
18	80	10.4	9.5	−0 2	−13.2	
19	84	10.5	9.5	+0 11	+21.0	
20	89	10.6		+0 42	+16.4	
21	90	10.6		$+0^m 44^s$	$+13'.9$	
22	97	10.8		+0 15	− 8.9	
23	101	10.9		−0 21	+ 5.7	
24	105	11.0		+0 40	−13.2	
25	108	11.1		−0 49	+ 4.8	
26	111	11.2		−0 57	−13.2	
27	111	11.2		−0 24	+ 3.4	
28	114	11.3		+0 16	+ 9.0	
29	119	11.4		+0 24	+ 8.1	
30	123	11.5		+0 21	+ 0.3	
31	124	11.5		−0 2	+11.4	
32	128	11.6		−0 30	− 1.9	
33	131	11.7		+0 18	+11.9	
34	136	11.8		−0 26	− 1.8	
35	136	11.8		−0 19	+ 9.3	
36	146	12.1		−0 29	+ 7.6	
37	149	12.2		+0 13	− 3.9	
38	154	12.3		−0 21	+11.4	

$M = 9.1 + 0.026\ (G - 31.0)$.

Series II.

U Herculis

16h 19m 23s (1855.0) +19° 13'.6

Max. = 2 400 723d (8. Nov. 1860) + 409d E?

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1			7.0	−0m 31s	+21'.0	PD. 7M.0
2	0	8.1	7.6	+1 25	+ 6.0	
3	0	8.1	8.1	+0 42	−29.6	
4	7	8.4	8.8	−1 49	+18.6	
5	12	8.6	9.1	−0 12	+ 3.4	
6	16	8.8	8.5	+1 18	+28.8	
7	19	8.9	8.8	+1 59	−23.5	
8	23	9.1	9.5	−1 36	+26.5	
9	33	9.4	9.4	−0 23	−22.0	
10	33	9.4	9.5	+0 28	− 8.9	
11	40	9.7	9.5	−0 44	+ 0.2	
12	46	10.0		+0 36	+ 0.3	
13	49	10.1		−0 8	+ 5.4	
14	53	10.3		−0 29	− 8.7	
15	56	10.4		−0 22	0.0	
16	60	10.6		+0 38	+11.7	
17	64	10.7		−0 58	− 3.6	
18	68	10.9		−0m 18s	−10'.5	
19	73	11.1		+0 40	−14.7	
20	75	11.2		+0 56	+ 9.9	
21	84	11.5		+0 56	+ 8.7	
22	84	11.5		+0 19	+14.9	
23	89	11.7		+0 35	− 3.9	
24	93	11.9		−0 56	− 9.9	
25	98	12.1		−0 34	+11.1	dpl.
26	99	12.2		−0 33	− 8.7	
27	100	12.2		−0 15	−11.4	
28	103	12.3		+0 1	− 1.2	
29	108	12.5		+0 11	+ 5.1	
30	112	12.7		+0 13	+13.5	
31	115	12.8		+0 7	+ 0.4	
32	118	12.9		+0 5	− 9.0	
33	122	13.1		+0 31	+12.2	
34	125	13.2		−0 5	− 3.9	

$$M = 8.1 + 0.041\ (G - 0.0).$$

Series II.

S Herculis

$16^h\,45^m\,18^s$ (1855.0) $+15^0\,11'.4$

Max. = 2 399 202^d (9. Sept. 1856) + 308^d.1 E (Periodo irregulari).

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6.1	$+0^m\,11^s$	+ 2'.3	PD. $6^M.8$, 49 Herc.	18	74	10.5		$+0^m\,16^s$	− 6'.0	
2			6.8	−1 55	+26.7	„ 7.2	19	75	10.5		+0 48	+11.7	
3	0	8.3	7.8	+1 29	+27.8		20	76	10.6		−0 15	− 6.3	
4	6	8.5	8.2	+1 46	+11.7		21	77	10.6		+0 25	−12.2	
5	10	8.6	8.5	+1 10	− 3.5		22	77	10.6		−0 30	− 9.1	
6	16	8.8	8.9	−1 2	− 6.0		23	84	10.8		−0 33	−12.0	
7	17	8.8	8.9	+1 55	+ 8.2		24	86	10.9		−0 38	+ 6.0	
8	34	9.3	9.5	+1 32	+ 2.3		25	88	10.9		−0 6	−10.5	
9	36	9.4	9.5	+0 14	−10.8		26	101	11.3		−0 53	−12.3	
10	40	9.5	9.5	+0 9	− 1.6		27	105	11.5		+1 55	− 7.2	
11	40	9.5	9.5	−0 13	−17.1		28	107	11.5		+0 16	+ 7.2	
12	42	9.6	9.5	−0 4	−21.9		29	112	11.6		+0 35	+14.9	
13	49	9.8	9.5	−0 4	+ 7.2		30	117	11.8		−0 33	+ 5.9	
14	52	9.8		−0 48	+12.0		31	120	11.9		+0 12	+ 4.5	
15	59	10.1		+0 40	−11.4		32	123	12.0		−0 40	+ 4.2	
16	64	10.2		+0 51	− 3.1		33	125	12.0		+0 24	+ 6.6	
17	68	10.3		+0 23	− 7.8		34	127	12.1		+0 38	+ 8.7	

$M = 8.7 + 0.030\ (G - 13.2)$.

R Aquilae

$18^h\ 59^m\ 23^s$ (1855.0) $+8^\circ\ 0'.8$

Max. = 2 399 167^d (5. Aug. 1856) + 350^d.6 E — 0^d.32 E^2.

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1			6.5	−4^m 0^s	+ 9′.2	PD. 6^M.4
2	0	8.1	7.8	+1 55	+44.8	
3	8	8.4	8.4	−1 52	+ 4.6	
4	10	8.4	8.4	−1 29	+15.0	
5	17	8.6	8.7	+0 49	+ 6.8	
6	18	8.7	9.0	−1 25	− 0.6	
7	25	8.9	9.0	+0 53	− 6.2	
8	27	8.9	9.0	+1 3	− 3.0	
9	32	9.0	9.2	+0 4	+27.5	
10	36	9.2	9.2	+1 27	+13.8	
11	38	9.2	9.2	+0 18	−13.3	
12	47	9.3	9.2	0 0	−17.9	
13	45	9.4	9.4	−0 8	−11.7	
14	55	9.7	9.5	+1 50	+23.2	
15	57	9.8	9.4	−1 5	−20.2	
16	61	9.9	9.5	+0 35	+23.3	
17	65	10.0	9.5	+1 18	−24.7	
18	66	10.0	9.5	−0 52	+15.6	
19	71	10.2	9.5	+1 27	+20.7	
20	74	10.3		−0 55	+14.4	
21	75	10.3	9.5	+0 24	−12.3	
22	76	10.3	9.5	+0 47	−20.7	
23	82	10.5	9.5	−0 12	− 0.2	
24	85	10.6		−0 12	+ 5.8	
25	86	10.6		−0 9	− 6.0	
26	89	10.7		+0 54	+ 3.3	
27	90	10.8		+0 23	−11.2	
28	93	10.8		−1 5	−12.1	
29	94	10.9		−0^m 53^s	+ 6′.4	
30	96	10.9		−0 5	+ 0.3	Sch. 10^M.6
31	99	11.0		−0 34	+ 6.5	
32	104	11.2		−0 40	0.0	
33	106	11.2		−0 55	− 9.7	
34	107	11.2		+0 5	+14.5	
35	108	11.3		+0 22	− 0.7	
36	111	11.3		−0 44	−14.4	
37	115	11.5		−0 59	+ 9.1	
38	122	11.7		+0 13	−14.7	
39	126	11.8		+0 40	− 8.7	
40	129	11.9		−0 41	+11.4	
41	133	12.0		−0 50	−10.3	dpl.
42	136	12.1		−0 11	− 2.1	
43	137	12.1		−0 12	− 6.1	
44	147	12.4		−0 24	− 0.5	
45	149	12.5		+0 36	− 0.8	
46	152	12.5		−0 17	+ 9.0	
47	155	12.6		+0 20	− 0.4	
48	156	12.6		−0 29	−10.0	
49	157	12.7		+0 24	− 2.1	
50	157	12.7		−0 31	− 4.9	
51	160	12.8		−0 37	− 0.1	
52	164	12.9		−0 33	− 9.0	
53	166	12.9		−0 41	+ 5.2	
54	170	13.1		+0 40	+10.8	
55	180	13.4		0 0	− 4.5	dpl.

M = 9.2 + 0.029 (G — 36.7).

7261

R Delphini

$20^h\,7^m\,55^s$ (1855.0) $+8^\circ\,39'.1$

Max. = $2\,402\,475^d$ (26. Aug. 1865) + $285^d.5$ E (Inaequalitas periodica ?).

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6.7	$+2^m\ 5^s$	$-\ 8'.0$	PD. $6^M.8$	31	107	11.4		$+0^m\,26^s$	$+\ 8'.1$	
2	0	8.4	8.4	−0 41	+25.3		32	113	11.5		−0 18	− 3.4	
3	5	8.5	8.5	−1 48	+ 3.1		33	115	11.6		−0 8	+ 6.0	
4	11	8.7	8.7	−0 40	− 3.2		34	115	11.6		+0 35	− 9.6	
5	17	8.8	9.2	−0 50	−29.6		35	118	11.7		+0 15	+ 7.2	
6	20	8.9	9.1	+2 1	+21.2		36	123	11.8		+0 20	−13.2	
7	21	9.0	9.3	+0 15	+15.0		37	125	11.9		−0 46	+11.3	
8	25	9.1	9.0	−0 54	−26.6		38	126	11.9		+0 23	+ 5.8	
9	27	9.1	9.2	+0 13	+26.0		39	130	12.0		−0 32	+ 9.3	
10	28	9.2	9.3	−0 10	+ 5.3		40	133	12.1		−0 42	+11.7	
11	34	9.3	9.3	+1 15	− 7.8		41	136	12.2		−0 2	− 8.7	
12	36	9.4	9.3	+1 51	+26.6		42	138	12.3		−1 1	− 7.2	
13	43	9.6	9.4	+0 50	− 4.4		43	140	12.3		+0 53	− 2.9	
14	45	9.6	9.5	+0 12	− 4.2		44	140	12.3		−0 59	− 3.6	
15	50	9.8	9.3	−0 34	+ 0.2		45	145	12.5		−0 7	−11.1	
16	52	9.8	9.5	−1 26	+17.7		46	146	12.5		−0 51	+ 2.0	
17	54	9.9		+0 38	+17.3		47	152	12.6		−0 19	+ 8.9	
18	60	10.1	9.5	−1 10	+12.6		48	155	12.7		−0 1	− 6.0	
19	61	10.1		−0 45	+ 6.9		49	155	12.7		−0 27	+ 1.8	
20	74	10.5	9.5	−1 58	−15.6		50	157	12.8		−0 31	− 1.1	
21	76	10.5		−1 40	−16.1		51	157	12.8		+0 5	+ 8.1	
22	81	10.6	9.5	−0 50	−15.1		52	158	12.8		+0 19	+ 5.6	
23	83	10.7		−0 32	− 8.7		53	159	12.8		−0 19	+ 1.6	dpl.
24	87	10.8		+0 47	−10.2		54	159	12.8		−0 49	− 3.0	
25	89	10.9		−0 33	− 0.3		55	164	13.0		+0 44	− 3.9	
26	90	10.9		+0 10	−14.4		56	169	13.1		−0 7	− 3.7	
27	93	11.0		+0 19	+12.0		57	169	13.1		+0 37	− 9.6	
28	97	11.1		−0 8	+13.9								
29	101	11.2		+0 31	+11.7								
30	104	11.3		−0 5	−10.0								

Sch. 12^M, -2^s, $-1'$ invisib.

$$M = 9.3 + 0.028\,(G - 32.7).$$

S Delphini

$20^h\,36^m\,24^s$ (1855.0) **$+16^{\circ}\,34'.2$**

Max. = 2 402 621^d (19. Ian. 1866) + 277.5 E.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1			6.5	$-1^m\ 6^s$	$+26'.6$	PD. $6^M.5$
2	0	8.4	8.4	+0 55	+29.3	
3	5	8.6	8.8	−1 27	+20.4	
4	7	8.6	8.7	+0 23	− 8.4	
5	7	8.6	8.3	−0 1	+ 0.9	
6	13	8.9	8.9	−1 48	− 5.1	
7	19	9.1	9.2	−0 15	+26.9	
8	25	9.3	9.5	−0 14	+ 9.3	
9	27	9.4	9.5	+1 40	+ 9.0	
10	30	9.5	9.3	−0 58	−15.6	
11	32	9.6	9.3	+1 31	+22.2	
12	33	9.6		−0 29	−23.4	
13	36	9.7	9.5	−1 30	+ 1.8	
14	37	9.8	9.5	+0 14	+ 7.2	
15	39	9.8	9.4	−1 55	−25.8	
16	41	9.9	9.4	+0 4	+18.9	
17	43	10.0	9.4	−0 14	+ 5.4	BD. $36^m\ 5^s.3$
18	47	10.1		−1 12	−11.4	
19	50	10.2	9.5	+0 10	+23.7	
20	51	10.3	9.5	+0 49	+27.2	
21	51	10.3	9.5	−1 34	+ 3.3	
22	53	10.4		−0 21	+ 1.8	
23	54	10.4		+0 14	− 1.5	
24	55	10.4	9.5	−1 42	− 3.3	
25	55	10.4		+0 7	+15.3	
26	55	10.4	9.5	+0 32	− 0.3	
27	60	10.6		−0 49	− 6.1	
28	62	10.7		−0 50	−15.3	
29	67	10.9	9.5	−0 30	+26.3	
30	72	11.1		−0 3	+ 8.4	
31	77	11.3		+0 31	− 6.0	
32	78	11.3		−0 42	− 8.4	
33	79	11.4		$-0^m\ 23^s$	$-\ 5'.8$	
34	81	11.4		+0 37	+14.7	dpl.
35	82	11.5		+0 22	+ 3.3	
36	83	11.5		−0 48	+15.0	
37	84	11.5		+0 20	+ 7.3	
38	85	11.6		−0 50	− 9.3	
39	86	11.6		+0 46	+ 2.8	
40	86	11.6		+0 17	+ 7.2	
41	87	11.7		+0 12	+ 5.1	
42	91	11.8		+0 52	+12.0	
43	91	11.8		+0 35	− 8.7	
44	94	11.9		−0 46	+ 2.4	
45	95	11.9		+0 41	+ 2.6	
46	95	12.0		−1 2	+ 0.3	
47	97	12.0		+0 58	− 3.0	
48	98	12.1		−0 26	+ 3.9	
49	100	12.1		−0 22	+ 3.9	
50	100	12.1		+0 12	− 3.0	
51	100	12.2		−0 55	+ 2.1	
52	105	12.3		−0 44	+11.4	
53	105	12.3		+0 19	− 1.5	
54	105	12.4		+0 33	− 8.1	
55	106	12.4		+0 9	− 6.0	
56	106	12.4		−0 38	− 3.3	
57	107	12.4		+0 26	+ 3.3	
58	110	12.5		−0 30	− 3.0	
59	112	12.6		+0 17	− 0.6	
60	116	12.7		−0 23	+ 7.5	
61	120	12.9		−0 23	+ 6.6	
T			var.	+2 15	−41.6	

$$M = 8.6 + 0.038\ (G - 6.4).$$

T Delphini

$20^h\,38^m\,38^s$ (1855.0) $+15^\circ\,52'.5$

Max. = 2 402 133^d (16. Sept. 1864) + 331^d.2 E.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1			3.5	$+1^m\,18^s$	$-16'.2$	PD. 4^M.2, $\gamma = \Sigma$ 2727	31	56	10.5		$+0^m\,42^s$	$-\;5'.7$	
2				+1 17	−16.2		32	57	10.6		−0 9	− 7.8	
3	0	8.0	8.0	+1 6	+30.0		33	58	10.6		+0 10	+ 2.7	
4	4	8.2	7.3	+0 51	−29.6	„ 7.7 „ sf", Σ 2725	34	59	10.7		−0 9	− 9.9	
5	11	8.5	8.8	+1 57	+ 6.3		35	59	10.7		−0 4	−14.7	
6	16	8.7	8.8	+0 31	+13.5		36	59	10.7		+0 51	+ 6.1	
7	23	9.0	9.2	+1 54	+11.7		37	60	10.7		+0 3	− 4.8	
8	24	9.1	9.1	−1 47	− 4.0		38	60	10.7		+0 33	− 0.1	
9	26	9.2	9.5	+1 5	+ 5.7		39	60	10.7		−0 7	− 8.4	
10	26	9.2	9.3	−1 8	− 3.6		40	62	10.8		+0 10	− 4.9	
11	28	9.3	9.1	−0 24	+ 0.3		41	63	10.9		+0 3	−12.1	
12	29	9.3	9.5	+0 47	+ 2.7		42	63	10.9		+0 10	+ 8.1	
13	32	9.5	9.5	+1 17	+25.7		43	65	10.9		−0 40	− 0.6	
14	33	9.5	9.3	−1 33	− 9.9		44	65	10.9		+0 30	− 2.4	
15	33	9.5	9.5	+0 37	−18.3		45	65	10.9		−0 19	−11.7	
16	38	9.7		+0 41	+ 7.2		46	65	10.9		+0 42	+14.4	
17	38	9.7	9.5	+0 56	+ 1.8		47	68	11.1		+0 13	− 5.1	
18	39	9.8	9.5	−1 10	−20.1		48	68	11.1		+0 3	+ 5.1	
19	43	9.9	9.5	−1 23	− 6.3		49	68	11.1		−0 44	− 3.0	
20	43	9.9	9.5	−0 29	+ 0.9		50	69	11.1		+0 34	− 3.3	
21	43	10.0		+0 12	0.0	Sch. 10^M.1	51	69	11.1		−0 2	−12.6	
22	45	10.0	9.5	−0 10	− 7.5		52	71	11.2		−0 44	− 0.9	
23	45	10.0		−0 34	− 4.8		53	71	11.2		+0 11	+13.8	
24	46	10.1		−0 40	+ 9.9		54	72	11.2		−0 40	− 8.7	
25	48	10.2		−0 16	+11.7		55	72	11.2		−0 55	− 5.7	
26	49	10.2		−0 11	+ 7.2		56	72	11.3		+0 45	+ 8.7	
27	50	10.3		−0 33	+ 2.7		57	74	11.4		+0 54	− 5.4	
28	50	10.3		+0 54	+ 9.1		58	75	11.4		−0 12	+ 3.0	
29	52	10.4		+0 45	− 4.5		59	76	11.4		+0 10	+ 6.6	
30	55	10.5		−0 4	+ 5.1		60	76	11.4		−0 53	+ 0.9	

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
61	78	11.5		$-0^m 14^s$	$+ 3'.9$		68	83	11.8		$-0^m 53^s$	$- 0'.6$	
62	78	11.5		+0 32	− 2.7		69	83	11.8		+0 53	+ 3.3	
63	79	11.6		−0 10	+ 8.1		70	86	11.9		+0 15	− 4.5	
64	79	11.6		−0 40	− 4.5		71	89	12.0		+0 45	+ 3.3	
65	80	11.6		−0 37	+ 0.6		72	91	12.1		+0 12	− 6.3	
66	82	11.7		+0 50	− 6.0		S			var.	−2 15	+41.6	
67	83	11.8		−0 37	− 5.4								

Sch. 11^M, -3^s, $+2'.7$ invisib.

$$M = 9.1 + 0.045\ (G - 24.0).$$

Series II.

R Vulpeculae

$20^h\,57^m\,56^s$ (1855.0) $+23^\circ\,14'.9$

Max. = 2 402 498^d.0 (18. Sept. 1865) + 136^d.90 E (Inaequalitas periodica).

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8.0	7.3	$-2^m\ 1^s$	$-29'.6$		31	70	10.7		$-0^m\,28^s$	$+\ 2'.7$	
2	0	8.0	7.5	−0 52	+10.8		32	71	10.7		−0 8	+11.6	
3	2	8.1	7.8	+0 52	−13.5		33	73	10.8		−0 6	+11.9	
4	13	8.5	8.7	−0 30	−27.3		34	73	10.8		−0 43	− 9.3	
5	16	8.7	8.5	+0 43	−20.7		35	75	10.9		+0 29	− 3.9	
6	25	9.0	9.2	−0 36	−14.1		36	76	10.9		−0 53	+ 2.8	
7	26	9.0	9.0	−0 27	−23.6		37	79	11.0		−0 51	+ 9.0	
8	29	9.2	9.2	−1 8	+15.3		38	80	11.1		+0 7	−12.0	
9	32	9.3	9.4	+0 17	−14.4		39	81	11.1		−0 36	+14.7	
10	35	9.4	9.3	+0 26	−30.0		40	84	11.2		+0 4	− 2.7	
11	38	9.5	9.3	−0 3	−10.5		41	84	11.2		−0 53	0.0	
12	38	9.5	9.4	+1 57	+ 5.1		42	85	11.3		−0 20	−12.3	
13	43	9.7	9.5	−0 46	− 9.0		43	86	11.3		−0 59	− 6.7	dpl.
14	43	9.7	9.4	+1 24	−21.0		44	87	11.4		−0 47	+ 6.6	
15	47	9.8		−1 26	+18.6	*	45	87	11.4		+0 22	− 0.3	
16	47	9.8	9.4	+1 47	− 3.1		46	88	11.4		−0 47	− 1.5	
17	48	9.9	9.4	−1 42	−12.3		47	89	11.4		+0 55	+ 8.8	
18	48	9.9	9.5	+1 5	−23.7		48	90	11.4		−0 8	+ 9.6	
19	53	10.1	9.5	+0 6	+ 0.2		49	90	11.5		−0 19	− 2.7	
20	54	10.1	9.5	−0 39	− 6.9		50	91	11.5		+0 36	− 6.9	
21	56	10.2	9.5	−0 50	−17.7		51	92	11.5		−0 45	+ 5.1	
22	56	10.2		−1 29	+17.7	*	52	92	11.5		+0 15	+ 5.7	
23	56	10.2		+0 49	+ 5.4		53	93	11.6		+0 33	− 7.2	
24	58	10.2		+0 34	+ 5.7		54	94	11.6		+0 24	− 2.1	
25	61	10.3		−0 18	+ 4.2		55	94	11.6		−0 36	− 1.2	
26	63	10.4		+1 2	+ 4.2		56	94	11.6		−0 20	− 8.4	
27	64	10.5		+0 9	−10.5		57	96	11.7		+0 7	+ 2.7	
28	66	10.5		+0 31	+10.5		58	97	11.7		+0 57	+ 0.6	
29	66	10.5		−0 15	− 6.3		59	98	11.8		−0 14	− 0.3	dpl.
30	69	10.7		+0 54	−13.9		60	98	11.8		+0 32	+13.2	

* (15 + 22) = BD. + 23° 4221, 9^M.5.

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
61	99	11.8		$+0^m 30^s$	$-7'.5$		71	106	12.1		$-0^m 6^s$	$+6'.9$	
62	99	11.8		−0 56	− 3.6		72	107	12.1		+0 11	+14.7	
63	101	11.9		−0 3	− 3.9		73	107	12.1		−0 15	+ 9.0	
64	101	11.9		+0 48	+11.7		74	109	12.2		−0 49	−14.6	
65	102	11.9		+0 9	+12.9		75	110	12.2		−0 39	− 3.0	
66	103	12.0		−0 19	+ 3.3		76	110	12.2		−0 52	−14.6	
67	103	12.0		+0 27	− 8.4		77	110	12.2		−0 3	+14.1	
68	104	12.0		+0 55	+ 9.4		78	112	12.3		+0 35	+ 2.4	
69	106	12.1		+0 39	+ 9.3		79	113	12.3		−0 8	+ 6.9	
70	106	12.1		+0 16	+ 8.9								

$$M = 8.6 + 0.038\ (G - 14.6).$$

Series II.

T Pegasi

$22^{h}\,1^{m}\,49^{s}$ (1855.0) $+11^{\circ}\,49'.9$

Max. = 2 402 151^{d} (6. Oct. 1864) + 373^{d} E (Inaequalitas periodica).

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8.6	7.5	$-0^{m}\,55^{s}$	$+32'.0$	PD. $8^{M}.0$
2	1	8.6	8.7	+0 24	+25.3	
3	4	8.7	8.7	−0 12	+26.6	
4	7	8.8	8.9	−1 40	+28.4	
5	8	8.8	8.7	−0 22	−20.7	
6	16	9.0	8.9	−0 26	− 2.2	
7	20	9.1	9.2	+1 20	− 6.3	
8	22	9.2	9.5	+0 55	− 5.8	
9	23	9.2	9.5	−0 9	−18.3	
10	23	9.2	9.3	−0 19	+22.2	
11	28	9.4	9.4	+0 29	+ 8.7	
12	29	9.4	9.5	−1 46	+ 5.4	
13	34	9.5	9.5	−0 52	+26.9	
14	37	9.6	9.5	−0 55	+ 5.4	
15	38	9.6		+1 1	−17.7	
16	42	9.7	9.5	+0 28	+15.0	
17	42	9.8		+0 48	+ 9.0	
18	50	10.0		+0 36	+18.0	
19	57	10.2		+0 31	+ 2.4	
20	58	10.2		+0 50	− 3.0	
21	60	10.3	9.5	+1 19	− 0.3	
22	64	10.4		+0 34	− 9.7	
23	69	10.5		$-0^{m}\,44^{s}$	$-\,9'.6$	
24	71	10.6		−0 30	−14.4	
25	75	10.7		+0 43	− 9.9	
26	81	10.9		+0 38	− 2.4	
27	84	10.9		+0 11	0.0	
28	86	11.0		−0 16	− 2.2	
29	88	11.0		+0 24	+ 0.3	
30	89	11.1		−0 35	− 8.7	
31	90	11.1		+0 26	− 3.3	
32	92	11.1		+0 5	+10.8	
33	94	11.2		−0 16	−12.3	
34	94	11.2		−0 29	−11.9	
35	95	11.2		−0 42	+ 9.3	
36	96	11.3		+0 18	+ 0.9	
37	100	11.4		+0 8	− 9.6	
38	102	11.4		+0 9	− 5.7	
39	103	11.5		+0 18	− 3.9	
40	104	11.5		+0 26	− 9.7	
41	113	11.7		−0 3	+ 3.6	

Ch. 11^{M}, — 13^{s}, + 1′.5, invisib.
Positio stellae variabilis T in BD. + 11° 4738, $9^{M}.2$, corrigenda: + 5^{s}.

$M = 9.2 + 0.028\,(G - 22.0)$.

Series II.

8290

R Pegasi

$22^h\ 59^m\ 22^s$ (1855.0) $+9^0\ 45'.7$

Max. = 2 397 118^d (26. Dec. 1850) + 380^d.0 E (Inaequalitas periodica).

Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae	Num.	Gradus	Magn.	BD.	$\Delta\alpha$	$\Delta\delta$	Notae
1	0	8.1	7.0	$+2^m\ 9^s$	$+24'.6$	PD. $7^M.7$	21	47	10.9		$+0^m\ 20^s$	$-5'.1$	
2	0	8.1	8.0	−1 13	− 5.8		22	48	11.0		−0 6	+ 7.0	
3	5	8.4	8.5	+1 39	+ 2.1		23	49	11.1		+0 55	+12.1	
4	8	8.6	8.5	−1 45	−16.5		24	53	11.3		+0 46	+ 6.9	
5	12	8.9	9.0	−1 22	+21.7		25	53	11.3		+0 5	− 4.2	
6	13	8.9	9.0	+1 21	−29.6		26	58	11.6		+0 44	+ 3.0	
7	16	9.1	9.2	+1 41	−29.1		27	58	11.6		−0 9	+ 3.9	Ch. $10^M.5$
8	17	9.3	9.3	−1 46	+24.0		28	62	11.9		+0 5	+11.1	
9	20	9.4	9.5	+0 18	− 9.9		29	63	11.9		−0 57	0.0	
10	21	9.4	9.3	−1 15	+18.7		30	65	12.0		−0 46	− 6.1	
11	24	9.6		−1 55	+24.9		31	67	12.1		+0 19	+ 6.6	
12	27	9.8	9.4	+1 36	−15.3		32	69	12.3		−0 34	− 9.6	
13	28	9.9		−0 10	+ 5.4		33	71	12.4		−0 1	+ 7.2	
14	30	10.0	9.5	−1 18	+24.0	dpl.	34	73	12.5		−0 43	0.0	
15	34	10.2	9.5	−0 44	−11.7		35	75	12.6		+0 31	− 1.8	
16	36	10.3		+0 43	+ 2.4		36	80	12.9		−0 28	+ 8.9	
17	38	10.4		−0 31	− 4.8		37	85	13.2		+0 47	− 8.4	
18	40	10.5		−0 28	+14.7								
19	44	10.7		+0 9	+14.8								
20	45	10.8		+0 43	− 0.3								

Ch. 11^M, $+10^s$, $+0'.2$ invisib.
Positio R in BD. $+9^0$ 5158 corrigenda: $-7^s + 2'.7$.

M = 8.5 + 0.060 (G − 6.1).

Series II.

S Pegasi

$23^{h}\,13^{m}\,13^{s}$ (1855.0) **$+8^{\circ}\,7'.6$**

Max. = 2 402 210^{d}.5 (4. Dec. 1864) + 317^{d}.5 E.

Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae	Num.	Gradus	Magn.	BD.	Δα	Δδ	Notae
1	0	8.0	7.3	$+5^{m}\,35^{s}$	0'.0	PD. $7^{M}.6$	18	68	10.6		$+0^{m}\,28^{s}$	−14'.1	
2	5	8.2	8.2	−2 32	+34.8		19	76	10.9		+0 46	+ 2.4	
3	16	8.6	8.6	−1 36	+30.3		20	78	11.0		−0 40	+ 9.0	
4	16	8.6	8.7	+0 41	+30.5		21	82	11.1		−1 6	+ 0.8	
5	20	8.8	8.9	−0 54	+ 9.2		22	85	11.3		−1 1	+ 9.0	
6	23	8.9	9.1	+2 15	−15.0		23	88	11.4		−0 19	+ 7.1	
7	29	9.1	9.4	−0 8	+11.5		24	91	11.5		−1 2	− 4.9	
8	30	9.1	9.3	−0 32	− 6.0		25	95	11.6		−0 43	−12.9	
9	30	9.1		−0 45	+ 6.0		26	98	11.8		−0 4	+ 8.4	
10	36	9.4	9.5	+1 15	+11.7		27	102	11.9		+0 33	+ 5.7	
11	39	9.5	9.4	+1 49	−14.7		28	105	12.0		+0 11	+11.7	
12	40	9.5	9.5	−0 2	+24.0		29	109	12.2		0 0	+ 6.6	
13	41	9.6		0 0	+28.7		30	114	12.4		−0 28	− 3.3	
14	46	9.8	9.4	−0 53	+19.1		31	117	12.5		−0 17	− 4.0	
15	50	9.9		0 0	+11.8		32	119	12.6		+0 31	− 5.1	
16	56	10.1		−0 3	−11.7		33	119	12.6		+0 59	+11.4	
17	60	10.3	9.5	+1 32	−27.8		34	120	12.6		+0 36	− 6.3	

M = 9.0 + 0.038 (G − 26.0).

Series II.